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¹The author is a member of the MOCS ('more than one constituent substances') initiative (www.vielstoffgemische.de)

RECEIVED 05 April 2023 ACCEPTED 14 April 2023 PUBLISHED 04 July 2023

CITATION

Tabbert JM, Riewe D, Schulz H and Krähmer A (2023) Corrigendum: Facing energy limitations – approaches to increase basil (*Ocimum basilicum* L.) growth and quality by different increasing light intensities emitted by a broadband LED light spectrum (400-780 nm). *Front. Plant Sci.* 14:1200910. doi: 10.3389/fpls.2023.1200910

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Jenny Manuela Tabbert^{1,2*}, David Riewe¹, Hartwig Schulz^{1,3†} and Andrea Krähmer^{1*}

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KEYWORDS

light-emitting diode (LED), morphology, essential oil, volatile organic compound (VOC), energy use efficiency (EUE)

A corrigendum on

Facing energy limitations – approaches to increase basil (*Ocimum basilicum* L.) growth and quality by different increasing light intensities emitted by a broadband LED light spectrum (400-780 nm)

by Tabbert JM, Riewe D, Schulz H and Krähmer A (2022) Front Plant Sci. 13:1055352. doi: 10.3389/fpls.2022.1055352

In the published article, there was an error in the author list, and David Riewe was erroneously excluded.

The corrected author list appears below.

Jenny Manuela Tabbert^{1,2*}, David Riewe¹, Hartwig Schulz^{1,3†} and Andrea Krähmer^{1*} A correction has been made to the **Citation** statement. The citation previously stated:

"Tabbert JM, Schulz H and Krähmer A (2022) Facing energy limitations – approaches to increase basil (*Ocimum basilicum* L.) growth and quality by different increasing light intensities emitted by a broadband LED light spectrum (400-780 nm). *Front. Plant Sci.* 13:1055352. doi: 10.3389/fpls.2022.1055352"

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"Tabbert JM, Riewe D, Schulz H and Krähmer A (2022) Facing energy limitations – approaches to increase basil (*Ocimum basilicum* L.) growth and quality by different

increasing light intensities emitted by a broadband LED light spectrum (400-780 nm). *Front. Plant Sci.* 13:1055352. doi: 10.3389/fpls.2022.1055352"

A correction has been made to the Copyright statement.

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A correction has been made to the **Author Contribution** statement. This paragraph previously stated:

"JT: conceptualization, project administration, formal analysis, validation, investigation, data curation, and writing – original draft preparation. AK: conceptualization, and writing – review and editing. HS: conceptualization, project administration, methodology, funding acquisition, resources, and supervision. All authors contributed to the article and approved the submitted version."

The corrected paragraph appears below.

"JT: conceptualization, project administration, formal analysis, validation, investigation, data curation, and writing – original draft preparation. DR: methodology, formal analysis, validation. AK: conceptualization, and writing – review and editing. HS: conceptualization, project administration, methodology, funding acquisition, resources, and supervision. All authors contributed to the article and approved the submitted version."

In the published article, there was an error in Table 4: **Relative abundance of major volatile organic compounds identified in the leaves of O.** *basilicum* **L. cv. 'Dark Opal' as affected by LED light intensity treatments over time**. Table 4 erroneously shows the compounds of 'Dark Opal' but has to show the compounds of cv. 'Thai Magic' to match the references in the text and to stay in chronological order.

The corrected Table 4 Relative abundance of major volatile organic compounds identified in the leaves of *O. basilicum* L. cv. 'Thai Magic' as affected by LED light intensity treatments over time and its caption appear below.

In the published article, there was an error in Table 5 Relative abundance of major volatile organic compounds identified in the leaves of *O. basilicum* L. cv. 'Thai Magic' as affected by LED light intensity treatments over time. Table 5 erroneously shows the compounds of 'Thai Magic' but has to show the compounds of cv. 'Cinnamon' to match the references in the text and to stay in chronological order.

The corrected Table 5 Relative abundance of major volatile organic compounds identified in the leaves of *O. basilicum* L. cv. 'Cinnamon' as affected by LED light intensity treatments over time and its caption appear below.

In the published article, there was an error in Table 6 **Relative abundance of major volatile organic compounds identified in the leaves of O.** *basilicum* **L. cv. 'Cinnamon' as affected by LED light intensity treatments over time**. Table 6 erroneously shows the compounds of 'Cinnamon' but has to show the compounds of cv. 'Dark Opal' to match the references in the text and to stay in chronological order.

The corrected Table 6 Relative abundance of major volatile organic compounds identified in the leaves of *O. basilicum* L. cv. 'Dark Opal' as affected by LED light intensity treatments over time and its caption appear below (which remain unaffected).

In the published article, **Figure 4** is not referenced correctly in the text.

A correction has been made to **Results and Discussion**, I_{High} induced light avoidance responses in green basil cultivars while purple basil remained 'light-tolerant', paragraph 1.

This sentence previously stated:

"As evident in **Figure 5**, undesirable morphological and anatomical leaf adaptations to I_{High} became clearly visible at the top canopy of the green-leafed cultivars cv. Anise, cv. Cinnamon and cv. Thai Magic during the last week of the trial period when PFDs exceeded an average of 300 µmol m⁻² s⁻¹ at canopy level (**Table 2**)."

The corrected sentence appears below:

"As evident in **Figure 4**, undesirable morphological and anatomical leaf adaptations to I_{High} became clearly visible at the top canopy of the green-leafed cultivars cv. Anise, cv. Cinnamon and cv. Thai Magic during the last week of the trial period when PFDs exceeded an average of 300 µmol m⁻² s⁻¹ at canopy level (**Table 2**)."

A correction has been made to **Results and Discussion**, I_{Low} resulted in beneficial acclimation responses in green basil cultivars while purple basil performed insufficiently, paragraph 1.

This sentence previously stated:

"In contrast to the undesirable light-avoiding leaf adaptations and flower initiations detected under I_{High} (section 3.3), the lightorientated leaves of the green cultivars cv. Anise, cv. Cinnamon and cv. Thai Magic were fully expanded, thin and displayed typical green leaf colors under I_{Low} (**Figure 5**)."

The corrected sentence appears below:

"In contrast to the undesirable light-avoiding leaf adaptations and flower initiations detected under I_{High} (section 3.3), the lightorientated leaves of the green cultivars cv. Anise, cv. Cinnamon and cv. Thai Magic were fully expanded, thin and displayed typical green leaf colors under I_{Low} (**Figure 4**)."

A correction has been made to **Results and Discussion**, I_{Low} resulted in beneficial acclimation responses in green basil cultivars while purple basil performed insufficiently, paragraph 2.

This sentence previously stated:

TABLE 4 Relative abundance of major volatile organic compounds identified in the leaves of O. basilicum L. cv. 'Thai Magic' as affected by LED light intensity treatments over time.

No.	Compound	RI ¹		I_{Lo})W			I_{High}				
			DAS 14	DAS 21	DAS 28	DAS 35	DAS 14	DAS 21	DAS 28	DAS 35		
			Percent (%) of total volatile organic compound composition ²									
1	α-pinene	938	-	-	0.3±0.0	0.2±0.0	-	-	0.2±0.0	0.2±0.0		
2	β -pinene	982	-	0.4±0.0	0.3±0.0	0.3±0.0	-	$0.4{\pm}0.0$	0.4±0.1	0.4±0.0		
3	β -myrcene	992	-	-	0.3±0.0	0.3±0.0	-	-	0.4±0.1	0.3±0.0		
4	limonene	1033	0.7 ± 0.2^{abc}	$0.7{\pm}0.1^{a}$	0.6 ± 0.0^{ab}	$0.5\pm0.1^{\mathrm{bc}}$	$0.7{\pm}0.0^{a}$	0.7 ± 0.1^{ab}	0.6 ± 0.1^{abc}	$0.5\pm0.0^{\circ}$		
5	1,8-cineole	1036	2.5 ± 0.5^{d}	$3.4{\pm}0.4^{c}$	$3.4{\pm}0.4^{c}$	$3.6\pm0.3^{\mathrm{bc}}$	$3.9{\pm}0.5^{ m abc}$	$4.4{\pm}0.5^{a}$	4.2±0.6 ^{ab}	3.9 ± 0.4^{abc}		
6	trans-ß-ocimene	1050	0.7±0.1 ^e	$0.8{\pm}0.1^{de}$	1.1 ± 0.1^{c}	$1.4{\pm}0.2^{b}$	1.0 ± 0.1^{c}	0.9 ± 0.1^{cd}	$1.7{\pm}0.3^{ab}$	$1.8{\pm}0.2^{a}$		
7	terpinolene	1095	2.9±0.9 ^a	$2.4{\pm}0.6^{a}$	1.8 ± 0.2^{b}	1.2±0.3 ^c	$3.1 {\pm} 0.8^{a}$	2.2 ± 0.6^{a}	1.3±0.3 ^c	$0.8\pm0.1^{\circ}$		
8	linalool	1100	-	0.4±0.1 ^c	$0.6\pm0.1^{\mathrm{bc}}$	0.9 ± 0.3^{ab}	-	1.2 ± 0.8^{abc}	$1.3{\pm}0.4^{a}$	1.2±0.3 ^a		
9	camphor	1154	1.1±0.1 ^c	$1.3\pm0.3^{\mathrm{bc}}$	$1.3\pm0.1^{\mathrm{bc}}$	1.5 ± 0.2^{b}	1.7 ± 0.4^{ab}	2.0±0.3 ^a	$1.9{\pm}0.2^{a}$	$1.4{\pm}0.2^{\rm bc}$		
10	borneol	1174	-	$0.4{\pm}0.1$	0.5±0.1	0.7±0.1	-	0.5±0.1	0.8±0.2	1.4±0.3		
11	lpha-terpineol	1197	$0.4{\pm}0.0^{c}$	$0.4{\pm}0.0^{c}$	$0.5\pm0.1^{\mathrm{bc}}$	$0.5 {\pm} 0.0^{\rm b}$	0.5 ± 0.1^{bc}	$0.5\pm0.0^{\mathrm{b}}$	0.7 ± 0.1^{a}	0.7±0.1 ^a		
12	methyl chavicol	1204	69.7±1.9 ^{abcde}	73.0±2.6 ^{abc}	73.5±2.0 ^a	71.7±1.1 ^{abcd}	68.7±4.2 ^{cde}	68.6±1.8 ^{de}	66.4±3.3 ^e	70.1±2.3 ^{abcde}		
13	trans-methyl cinnamate	1390	1.1±0.1 ^a	0.7 ± 0.1^{b}	0.6±0.1 ^c	0.3 ± 0.0^{de}	$0.8\pm0.1^{\mathrm{b}}$	0.4±0.1 ^{cd}	0.2±0.0 ^e	_		
14	β -elemene	1403	_	_	$0.3\pm0.0^{\mathrm{b}}$	$0.4{\pm}0.1^{b}$	-	_	$0.4\pm0.1^{\mathrm{b}}$	0.7±0.1 ^a		
15	methyl eugenol	1406	7.2±1.8 ^a	3.0 ± 0.4^{bc}	2.2±0.6 ^{cd}	$1.4{\pm}0.2^{d}$	4.2 ± 0.6^{ab}	$2.0{\pm}0.4^{d}$	1.1±0.1 ^e	0.9±0.2 ^e		
16	<i>α-trans</i> -bergamotene	1437										
17	aromadendrene	1446	4.6±0.1 ^b	$4.4{\pm}0.8^{b}$	4.3±0.3 ^b	5.2±0.8 ^{ab}	5.4±0.5 ^{ab}	5.7 ± 0.8^{ab}	6.5±1.1 ^a	5.3±1.1 ^{ab}		
18	β -farnesene	1460	3.8±0.7 ^a	2.6±0.3 ^b	2.6±0.4 ^b	2.2±0.3 ^{bc}	3.5±0.6 ^a	2.1±0.3 ^{bc}	2.0±0.5 ^{bc}	1.6±0.4 ^c		
19	bicyclogermacrene	1497	1.0±0.2 ^{de}	0.8±0.0 ^e	1.1 ± 0.2^{bcd}	$1.4{\pm}0.1^{ab}$	1.2 ± 0.2^{bcde}	1.1±0.2 ^{cde}	1.6 ± 0.4^{abc}	1.8±0.3 ^a		
20	γ-cadinene	1514	-	-	0.3±0.1 ^c	0.4±0.1 ^{bc}	-	-	0.5 ± 0.1^{ab}	0.5±0.1 ^a		
21	δ -cadinene	1521	-	-	0.3±0.1 ^c	0.5 ± 0.2^{bc}	-	-	$0.7{\pm}0.1^{ab}$	0.9±0.2 ^a		
22	<i>cis</i> -nerolidol	1529	_	$0.4{\pm}0.0^{\mathrm{d}}$	0.6±0.1 ^c	$0.8 {\pm} 0.1^{\rm b}$	-	$0.8\pm0.2^{\mathrm{bc}}$	1.1±0.2 ^{ab}	1.3±0.2 ^a		
23	spathulenol	1578	0.5±0.1 ^c	1.2±0.5 ^{ab}	$0.7\pm0.4^{\mathrm{bc}}$	0.6 ± 0.2^{bc}	1.0 ± 0.2^{b}	2.0±0.5 ^a	0.6 ± 0.2^{bc}	0.6 ± 0.1^{bc}		
24	<i>epi-α</i> -cadinol	1633	_	-	_	$0.3\pm0.0^{\mathrm{b}}$	-	-	0.3 ± 0.0^{a}	$0.4{\pm}0.1^{a}$		
25	α-cadinol	1657	$0.4{\pm}0.1^{f}$	0.7±0.1 ^e	1.1±0.2 ^{cd}	1.5 ± 0.2^{bc}	0.8 ± 0.2^{def}	1.3±0.3 ^{bcd}	$1.9{\pm}0.4^{ab}$	2.3±0.3 ^a		
	TOTAL [%] ³		96.7±0.7	97.5±0.6	97.9±0.4	97.6±0.4	97.2±0.6	96.6±0.2	96.5±1.1	97.6±0.9		
	VOC content [%] ⁴		0.9 ± 0.1^{bc}	$0.9\pm0.2^{\mathrm{bc}}$	1.2±0.2 ^{abc}	1.3±0.2 ^{ab}	0.8 ± 0.2^{c}	0.7±0.2 ^c	$1.4{\pm}0.4^{a}$	0.9±0.3 ^{bc}		
	VOC content [mg total LDM ⁻¹] ⁵					10.5±0.5 ^b				19.2±0.5 ^a		

RI, retention index; DAS, days after sowing: the bold compound represents the major volatile compound of the cultivar; different letters within a row indicate significant differences at $p \le 0.05$.¹ Presented are mean RIs of samples under GC-FID conditions on an HP-5MS column relative to a series of n-alkanes.² Presented are mean percentages \pm SD of volatile organic compounds of all analyzed basil leaf extracts per light treatment and DAS).³ Percentage [%] \pm SD represents total of listed volatile organic compounds. (Traces of nine identified compounds (namely camphene (RI 954), sabinene (RI 978), cis-sabinene hydrate (RI 1072), chavicol (RI 1223), nerol (RI 1227), cis-methyl cinnamate (RI 1294), eugenol (RI 1364), α -humulene (RI 1452), α -amorphene (RI 1471), germacrene D (RI 1479), trans-cadina-1,4-diene (RI 1534), viridiflorol (RI 1596) and traces of four unidentified compounds (RI 1015, RI 1120, RI 1261, RI 1557) are excluded from the table.)⁴ Presented are average VOC contents \pm SD in percent [%] per gram of leaf dry matter (w/w) from four independent experimental replications per light treatment.⁵ Presented are calculated average total VOC contents \pm SD in mg total LDM⁻¹ (leaf dry matter) across four spatial replications at harvest (35 DAS) per basil pot.

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10.3389/fpls.2023.1200910

Tabbert et al.

No.	Compound	RI^1		I _{Low}			I_{High}				
			DAS 14	DAS 21	DAS 28	DAS 35	DAS 14	DAS 21	DAS 28	DAS 35	
		Percent (%) of total volatile organic compound compo							osition ²		
1	1,8-cineole	1036	3.0±0.7 ^{ab}	2.5±0.6 ^{ab}	2.4±0.8 ^b	3.4±0.7 ^a	3.3±0.7 ^{ab}	3.1±0.5 ^{ab}	2.7±0.4 ^{ab}	2.6±0.6 ^{ab}	
2	trans-ß-ocimene	1049	0.6±0.0	0.6±0.1	0.5±0.2	0.5±0.1	0.6±0.3	0.7±0.1	0.5±0.0	0.6±0.3	
3	terpinolene	1094	$1.6{\pm}0.4^{a}$	0.9 ± 0.3^{bc}	0.6 ± 0.2^{bc}	$0.4{\pm}0.1^{c}$	1.6±0.4 ^a	$1.0{\pm}0.4^{b}$	0.5 ± 0.1^{bc}	0.5 ± 0.1^{bc}	
4	linalool	1101	$7.9{\pm}2.2^{e}$	$13.8 {\pm} 2.5^{d}$	18.8±1.8 ^c	23.7±3.1 ^{ab}	13.6±3.0 ^d	20.1±2.8 ^{bc}	27.2±3.1 ^a	23.5±5.0 ^{abc}	
5	camphor	1153	0.8±0.1	0.6±0.1	0.6±0.2	0.5±0.2	0.8±0.1	0.8±0.3	0.5±0.2	0.5±0.2	
6	α-terpineol	1184	0.9±0.1	0.8±0.2	0.9±0.3	0.7±0.2	0.7±0.1	0.9±0.2	0.7±0.3	0.7±0.5	
7	methyl chavicol	1203	26.8±11.3 ^a	$20.5{\pm}5.4^{ab}$	15.3±7.1 ^{bc}	8.7±5.0 ^c	17.7±10.0 ^{abc}	12.0±4.8 ^{bc}	9.1±6.5 ^{bc}	9.8±4.2 ^{bc}	
9	eugenol	1364	1.7±1.1	1.6±0.5	3.1±1.6	5.2±4.8	3.8±2.2	1.5±0.7	5.9 ± 5.1	2.1±2.5	
10	trans-methyl cinnamate	1391	8.7 ± 3.8^{d}	30.2 ± 6.0^{abc}	35.1 ± 8.2^{a}	33.3±8.4 ^a	20.2 ± 6.4^{bcd}	$34.4{\pm}6.2^{a}$	27.5 ± 5.6^{ab}	36.9±12.1 ^a	
11	β -elemene	1403	0.7±0.0	0.5±0.1	0.6±0.2	0.9±0.3	0.4±0.0	0.6±0.2	0.7±0.2	0.9±0.3	
12	methyl eugenol	1406	$27.5 {\pm} 10.8^{a}$	13.2±3.7 ^{abc}	6.7±1.9 ^{def}	4.0±2.9 ^{efg}	18.2±8.9 ^{abcd}	7.5±1.6 ^{cde}	$3.3{\pm}2.2^{fg}$	$0.9{\pm}0.2^{\mathrm{g}}$	
13	aromadendrene	1446	2.2 ± 0.6^{abc}	$1.4{\pm}0.5^{abcd}$	$1.3{\pm}0.2^{d}$	1.3 ± 0.4^{cd}	$2.3{\pm}0.6^{ab}$	1.9 ± 1.1^{bcd}	$2.0{\pm}1.2^{bcd}$	$0.9{\pm}0.3^{ m d}$	
14	α-humulene	1451	-	-	$0.4{\pm}0.1^{\mathrm{b}}$	$0.6 {\pm} 0.2^{\mathrm{ab}}$	-	$0.4{\pm}0.0^{\mathrm{b}}$	0.8±0.3 ^a	$0.7{\pm}0.2^{ab}$	
15	β -farnesene	1460	$5.6 {\pm} 0.7^{\mathrm{b}}$	4.3±0.5 ^c	$3.0{\pm}0.5^{de}$	$2.2{\pm}0.5^{ef}$	6.7±1.0 ^a	$3.5{\pm}0.5^{\rm cd}$	2.5 ± 0.5^{def}	$1.6{\pm}0.5^{\rm f}$	
16	α-amorphene	1471	$3.1{\pm}1.0^{a}$	1.2 ± 0.3^{bc}	$0.8{\pm}0.1^{d}$	-	1.6±0.3 ^{ab}	1.0 ± 0.2^{cd}	1.0±0.0 ^c	$0.6 {\pm} 0.2^{\mathrm{d}}$	
17	germacrene D	1479	-	-	-	$0.4{\pm}0.0^{\mathrm{b}}$	-	$0.3\pm0.0^{\circ}$	0.5 ± 0.0^{a}	$0.4{\pm}0.1^{ab}$	
18	bicyclogermacrene	1497	$4.3{\pm}0.6^{ab}$	$3.6{\pm}0.3^{\mathrm{b}}$	$3.8{\pm}0.2^{ab}$	4.3±0.3 ^a	$4.0\ \pm 0.5^{ab}$	$3.8{\pm}0.2^{ab}$	$5.0{\pm}0.7^{a}$	$4.9{\pm}0.7^{ab}$	
19	γ-cadinene	1513	$0.8 {\pm} 0.2^{\mathrm{b}}$	$1.0{\pm}0.2^{ab}$	1.1 ± 0.1^{ab}	$1.4{\pm}0.2^{a}$	$1.1{\pm}0.2^{ab}$	$1.2{\pm}0.1^{ab}$	$1.6{\pm}0.6^{ab}$	$1.5{\pm}0.5^{ab}$	
20	δ -cadinene	1521	-	$0.5{\pm}0.0^{\mathrm{b}}$	$0.5{\pm}0.3^{\mathrm{b}}$	$1.0{\pm}0.4^{\mathrm{ab}}$	-	$0.6 {\pm} 0.1^{\mathrm{b}}$	1.3±0.3 ^a	$1.0{\pm}0.3^{ab}$	
21	cis-nerolidol	1529	1.3±0.3 ^c	1.3±0.1 ^c	1.6 ± 0.2^{bc}	2.1 ± 0.2^{a}	1.4±0.2 ^c	$1.8{\pm}0.3^{\mathrm{b}}$	2.5±0.1 ^a	$2.5{\pm}0.4^{\mathrm{a}}$	
22	<i>epi-α</i> -cadinol	1633	-	-	0.4±0.1 ^c	0.6 ± 0.1^{bc}	-	$0.5 {\pm} 0.1^{c}$	0.7 ± 0.1^{ab}	0.7±0.1 ^a	
23	α-cadinol	1657	$2.4{\pm}0.6^{d}$	2.5 ± 0.2^{d}	$3.2{\pm}0.6^{\rm cd}$	$4.2{\pm}0.5^{ab}$	$2.6 \pm 0.7^{\mathrm{d}}$	$3.4{\pm}0.8^{bcd}$	$5.1 {\pm} 0.8^{a}$	$5.1{\pm}1.0^{ab}$	
	TOTAL [%] ³		99.6±0.5	100.0±0.0	99.7±0.5	98.4±0.6	99.6±0.7	99.2±0.8	98.6±0.6	97.8±1.0	
	VOC content [%] ⁴		$0.4{\pm}0.1^d$	$0.6{\pm}0.1^{ab}$	$0.7{\pm}0.2^{ab}$	$1.1{\pm}0.4^{a}$	0.5 ± 0.2^{bcd}	$0.7{\pm}0.3^{abcd}$	$0.8 {\pm} 0.2^{abcd}$	$0.9{\pm}0.2^{ab}$	
	VOC content $[mg total LDM^{-1}]^5$					15.6 ± 1.2^{b}				17.8±2.0 ^a	

TABLE 5 Relative abundance of major volatile organic compounds identified in the leaves of *O. basilicum* L. cv. 'Cinnamon' as affected by LED light intensity treatments over time.

RI, retention index; DAS, days after sowing: bold compounds represent the major volatile compounds of the cultivar; different letters within a row indicate significant differences at $p \le 0.05$.¹ Presented are mean RIs of samples under GC-FID conditions on an HP-5MS column relative to a series of n-alkanes.² Presented are mean percentages \pm SD of volatile organic compounds of all analyzed basil leaf extracts (n = 8 leaf extracts per light treatment and DAS).³ Percentage [%] \pm SD represents total of listed volatile organic compounds. (Traces of eight identified compounds (namely β -pinene (RI 982), limonene (RI 1033), cis-linalool oxide (RI 1071), borneol (RI 1174), α -terpineol (RI 1196), chavicol (RI 1253), cis-methyl cinnamate (RI 1293), viridifiorol (RI 1569) and traces of two unidentified compounds (RI 1569, RI 1574) are excluded from the table.)⁴ Presented are average VOC contents \pm SD in percent [%] per gram of leaf dry matter (w/w) from four independent experimental replications per light treatment.⁵ Presented are calculated average total VOC contents \pm SD in mg total LDM⁻¹ (leaf dry matter) across four spatial replications at harvest (35 DAS) per basil pot.

"The greater leaf sizes, the evenly distributed chloroplasts across the leaves of cv. Anise,

cv. Cinnamon and cv. Thai Magic (**Figure 5**) as well as the fact that marketability criteria were reached just 3-4 days later under I_{Low} (as described in section 3.2) are robust signs that very similar (beneficial) low light acclimation responses took place in the green cultivars investigated in our study."

The corrected sentence appears below:

"The greater leaf sizes, the evenly distributed chloroplasts across the leaves of cv. Anise,

cv. Cinnamon and cv. Thai Magic (**Figure 4**) as well as the fact that marketability criteria were reached just 3-4 days later under I_{Low} (as described in section 3.2) are robust signs that very similar (beneficial) low light acclimation responses took place in the green cultivars investigated in our study."

In the published article, Figure 4C is not referenced correctly in the text.

A correction has been made to **Results and Discussion**, I_{Low} resulted in beneficial acclimation responses in green basil cultivars while purple basil performed insufficiently, paragraph 3.

This sentence previously stated:

"To the contrary, the comparatively small leaf sizes (as evident in Figure 5C) and the slow development of cv. Dark Opal under I_{Low} (as evident by the great differences in plant height, number of developed leaf and branch pairs and thus biomass yields (**Table 2** and Figures 4C, G, K, O) in comparison to I_{High} show clearly, that cv. Dark Opal was not able to adjust as well as its green basil counterparts to the given low light conditions."

The corrected sentence appears below:

"To the contrary, the comparatively small leaf sizes (as evident in Figure 4C) and the slow development of cv. Dark Opal under I_{Low} (as evident by the great differences in plant height, number of developed leaf and branch pairs and thus biomass yields (**Table 2**, Figures 4C, G, K, O) in comparison to I_{High} show clearly, that cv.

No.	Compound	RI ¹		II	low			I_{Hi}	I_{High}			
			DAS 14	DAS 21	DAS 28	DAS 35	DAS 14	DAS 21	DAS 28	DAS 35		
			Percent (%) of total volatile organic compound composition ²									
1	α-pinene	938	0.4±0.0 ^{cd}	0.4±0.0 ^{cd}	0.4±0.0 ^{cd}	0.4±0.1 ^{bcd}	0.4±0.0 ^{cd}	0.4±0.1 ^{cd}	0.5±0.0 ^{ab}	0.5±0.1 ^{abc}		
2	β -pinene	982	$0.5 \pm 0.0^{\circ}$	0.6±0.1 ^{bc}	0.6±0.1 ^{bc}	0.7±0.1 ^b	$0.7 \pm 0.0^{\mathrm{b}}$	0.6±0.1 ^{bc}	0.9±0.1 ^a	0.9±0.1 ^a		
3	β-myrcene	992	-	$0.4{\pm}0.1^{\mathrm{f}}$	$0.4{\pm}0.1^{\text{def}}$	0.5 ± 0.1^{bcdef}	0.5±0.0 ^{ef}	0.5 ± 0.1^{def}	$0.6{\pm}0.0^{\mathrm{ab}}$	0.7±0.1 ^a		
4	limonene	1033	0.7 ± 0.1^{abc}	0.6±0.1 ^{abc}	0.6 ± 0.1^{bc}	$0.6{\pm}0.1^{abc}$	$0.7{\pm}0.0^{a}$	0.6±0.1 ^c	$0.7{\pm}0.1^{ab}$	0.6 ± 0.1^{abc}		
5	1,8-cineole	1036	$4.4{\pm}0.3^{d}$	5.2 ± 0.5^{d}	$5.6 {\pm} 0.7^{d}$	6.6±0.8 ^{bcd}	6.0±0.0 ^{abcd}	6.3±0.8 ^d	8.2 ± 1.0^{abcd}	9.5±1.1 ^a		
6	terpinolene	1095	3.3 ± 0.7^{abcd}	2.6±0.3 ^a	2.3±0.2 ^{abc}	2.2±0.1 ^{abc}	2.9±0.3 ^a	2.1±0.2 ^{bc}	2.0 ± 0.2^{bc}	$1.3{\pm}0.2^{d}$		
7	linalool	1101	1.6±0.7 ^e	2.7±0.4 ^e	$4.5{\pm}0.8^{d}$	8.8±1.5 ^c	5.4 ± 0.4^{d}	8.3±1.2 ^c	16.0±2.3 ^b	28.4±5.0 ^a		
8	α -terpineol	1197	-	$0.3{\pm}0.0^{\mathrm{f}}$	0.4±0.0 ^e	0.5±0.0 ^{cd}	0.5 ± 0.0^{de}	0.6±0.1 ^c	$0.7{\pm}0.1^{b}$	1.0±0.1 ^a		
9	nerol	1227	$0.9{\pm}0.1^{\rm b}$	0.9 ± 0.2^{b}	0.9±0.1 ^b	0.9±0.1 ^b	0.9±0.1 ^b	$1.0 {\pm} 0.1^{b}$	1.5±0.2 ^a	1.7±0.2 ^a		
10	eugenol	1364	-	$0.6\pm0.2^{\mathrm{g}}$	$1.0{\pm}0.3^{\mathrm{fg}}$	3.2±0.8 ^{cd}	2.1 ± 0.9^{defg}	4.9±1.0 ^{bc}	4.6±0.3 ^b	9.0±2.5 ^a		
11	β -elemene	1403	-	0.4±0.1 ^d	0.3±0.2 ^{cd}	0.3±0.2 ^{cd}	0.3 ± 0.0^{d}	0.5±0.1 ^c	0.5±0.1 ^{bcd}	0.8±0.1 ^a		
12	methyl eugenol	1408	75.7±3.2 ^{ab}	74.2±1.7 ^a	72.3±2.2 ^a	63.0±3.9 ^{cd}	66.3±1.5 ^{bc}	61.0 ± 2.7^{d}	$48.4{\pm}3.8^{f}$	25.2±4.3 ^g		
13	α-trans-bergamotene	1437	1.9±0.1 ^a	1.7 ± 0.1^{bc}	1.7 ± 0.1^{bc}	1.7±0.1 ^{abc}	1.5±0.1 ^c	1.7 ± 0.0^{abc}	1.7±0.1 ^{abc}	1.9±0.2 ^{ab}		
14	aromadendrene	1446	0.4 ± 0.1^{bcd}	$0.3{\pm}0.0^{\mathrm{f}}$	0.3±0.0 ^{ef}	0.3 ± 0.0^{def}	0.5 ± 0.1^{ab}	0.4 ± 0.1^{bcd}	0.4±0.1 ^{cde}	0.4 ± 0.1^{bcd}		
15	α-humulene	1451	0.4±0.0 ^{de}	0.3±0.0 ^{ef}	0.3±0.0 ^{ef}	0.4±0.0 ^{cde}	$0.2{\pm}0.0^{\mathrm{f}}$	0.4±0.0 ^e	0.5 ± 0.1^{bc}	0.8±0.1 ^a		
16	β -farnesene	1461	$4.4{\pm}0.8^{ab}$	3.2±0.3 ^{ab}	3.2±0.2 ^b	3.4±0.3 ^{ab}	4.0±0.5 ^{ab}	3.7±0.2 ^a	3.9±0.4 ^a	3.3±0.3 ^{ab}		
17	α-amorphene	1471	0.8±0.1 ^a	0.5±0.0 ^{cd}	0.5 ± 0.0^{de}	0.5±0.0 ^e	0.6 ± 0.0^{bcd}	0.5 ± 0.0^{bcde}	0.6 ± 0.1^{bcde}	0.6 ± 0.0^{bcd}		
18	bicyclogermacrene	1498	$1.8{\pm}0.2^{f}$	$1.8{\pm}0.1^{\rm f}$	2.0 ± 0.1^{cdef}	2.1±0.1 ^{bc}	1.9 ± 0.1^{cdef}	2.1±0.2 ^{bcd}	2.3±0.2 ^b	3.1±0.2 ^a		
19	γ-cadinene	1513	0.5±0.0 ^e	0.5±0.0 ^e	0.7±0.1 ^d	1.0 ± 0.1^{b}	0.8±0.1 ^{cd}	0.9±0.1 ^{bc}	1.2±0.2 ^{abc}	1.3±0.2 ^a		
20	δ -cadinene	1521	-	$0.1\pm0.1^{\mathrm{f}}$	0.4±0.0 ^e	$0.6\pm0.0^{\mathrm{bc}}$	$0.3{\pm}0.0^{\mathrm{f}}$	0.5±0.1 ^{de}	$0.8 {\pm} 0.1^{b}$	1.4±0.1 ^a		
21	cis-nerolidol	1529	$0.6 \pm 0.0^{\mathrm{fg}}$	$0.6 \pm 0.1^{\mathrm{fg}}$	0.6 ± 0.1^{efg}	0.7±0.0 ^{de}	0.6±0.0 ^g	$0.7{\pm}0.0^{de}$	0.8±0.1 ^{bcd}	1.2±0.1 ^a		
22	α-cadinol	1657	$1.1\pm0.1^{\mathrm{fg}}$	1.1±0.1 ^g	1.2 ± 0.2^{efg}	$1.1{\pm}0.0^{ m g}$	$1.1{\pm}0.0^{ m g}$	$1.3{\pm}0.1^{def}$	1.5 ± 0.2^{bcde}	2.3±0.1 ^a		
	TOTAL [%] ³		99.4±0.4	99.4±0.2	99.4±0.1	99.1±0.3	98.8±0.3	98.3±0.4	98.8±0.4	98.3±0.3		
	VOC content [%] ⁴		0.9 ± 0.0^{bcd}	1.2±0.2 ^{ab}	0.9±0.2 ^{cd}	$0.8{\pm}0.1^{d}$	1.5±0.3 ^a	1.1 ± 0.2^{abc}	0.8 ± 0.2^{d}	$0.8 {\pm} 0.2^{d}$		
	VOC content [mg total LDM ⁻¹] ⁵					2.6±0.2 ^b				8.5±0.6 ^a		

TABLE 6 Relative abundance of major volatile organic compounds identified in the leaves of *O. basilicum* L. cv. 'Dark Opal' as affected by LED light intensity treatments over time.

RI, retention index; DAS, days after sowing; bold compounds represent the major volatile compounds of the cultivar; different letters within a row indicate significant differences at $p \le 0.05$.¹ Presented are mean RIs of samples under GC-FID conditions on an HP-5MS column relative to a series of n-alkanes.² Presented are mean percentages \pm SD of volatile organic compounds of all analyzed basil leaf extracts (n = 8 leaf extracts per light treatment and DAS).³ Percentage [%] \pm SD represents total of listed volatile organic compounds. (Traces of ten identified compounds (namely sabinene (RI 978), cis-linalool oxide (RI 1071), borneol (RI 1174), methyl chavicol (RI 1203), chavicol (RI 1256), β -cubebene (RI 1384), trans-methyl cinnamate (RI 1390), germacrene D (RI 1479), viridiflorol (RI 1596), epi- α -cadinol (RI 1633) and traces of three unidentified compounds (RI 1015, RI 1120, RI 1548) are excluded from the table.)⁴ Presented are average VOC contents \pm SD in percent [%] per gram of leaf dry matter (w/w) from four independent experimental replications per light treatment.⁵ Presented are calculated average total VOC contents \pm SD in group of leaf dry matter (actions at harvest (35 DAS) per basil pot.

Dark Opal was not able to adjust as well as its green basil counterparts to the given low light conditions."

In the published article, Figures 5A-H are not referenced correctly in the text.

A correction has been made to **Results and Discussion**, *Cultivar-dependent light intensity requirements under increasing light intensity conditions*, paragraph 6.

This sentence previously stated:

"However, with the high-quality market-ready basils within 30-37 DAS (Figures 4A–H) detected under I_{Low} under increasing light intensities (between ~ 100 and 200 µmol m⁻² s⁻¹ (**Table 2**)) mostly below the lowest recommended constant light intensity of 180 µmol m⁻² s⁻¹ as recently reviewed by Sipos et al. (2021), the increasing light conditions applied in this study show that even with lower than previously assumed light requirements, high-quality basil productions under artificial light conditions are possible." The corrected sentence appears below:

"However, with the high-quality market-ready basils within 30-37 DAS (Figures 5A–H) detected under I_{Low} under increasing light intensities (between ~ 100 and 200 µmol m⁻² s⁻¹ (**Table 2**)) mostly below the lowest recommended constant light intensity of 180 µmol m⁻² s⁻¹ as recently reviewed by Sipos et al. (2021), the increasing light conditions applied in this study show that even with lower than previously assumed light requirements, high-quality basil productions under artificial light conditions are possible."

In the published article, Figures 5Q-2 are not referenced correctly in the text.

A correction has been made to **Results and Discussion**, *Cultivar-specific VOC concentrations change over time*, paragraph 8. This sentence previously stated:

"Different VOC accumulation patterns were observed between the investigated basil cultivars (Figures 4Q–S)." The corrected sentence appears below:

"Different VOC accumulation patterns were observed between the investigated basil cultivars (Figures 5Q-S)."

A correction has been made to **Results and Discussion**, *Cultivar-specific VOC concentrations change over time*, paragraph 9.

This sentence previously stated:

"Within each cultivar, VOC concentrations generally did not differ between I_{Low} and I_{High} during each investigated time point, however, exceptions were observed in the cultivars 'Dark Opal' and 'Thai Magic' (Figures 4Q–S)."

The corrected sentence appears below:

"Within each cultivar, VOC concentrations generally did not differ between I_{Low} and I_{High} during each investigated time point, however, exceptions were observed in the cultivars 'Dark Opal' and 'Thai Magic' (Figures 5Q–S)."

In the published article, Figure 5S is not referenced correctly in the text. A correction has been made to **Results and Discussion**,

Cultivar-specific VOC concentrations change over time, paragraph 9. This sentence previously stated:

"The significantly lower VOC concentration detected under I_{Low} in comparison to I_{High} at 14 DAS in 'Dark Opal' (Figure 4S) may be ascribed to the cultivars' limited photosynthetic capabilities under low light conditions as discussed before in section 3.4 and hence, a presumably lower availability of photosynthates for secondary metabolism."

The corrected sentence appears below:

"The significantly lower VOC concentration detected under I_{Low} in comparison to I_{High} at 14 DAS in 'Dark Opal' (Figure 5S) may be ascribed to the cultivars' limited photosynthetic capabilities under low light conditions as discussed before in section 3.4 and hence, a presumably lower availability of photosynthates for secondary metabolism."

In the published article, Figures 5T and 4D are not referenced correctly in the text.

A correction has been made to **Results and Discussion**, *Cultivar-specific VOC concentrations change over time*, paragraph 9. This sentence previously stated:

This sentence previously stated.

"The slightly increased VOC concentration observed under I_{Low} in comparison to I_{High} at 35 DAS in cv. Thai Magic (Figure 4T) may indicate that this cultivar reaches its maximum VOC accumulation before flower buds arise (Figure 5D) after which VOC concentrations decrease – an accumulation pattern that has previously been described for the *Ocimum basilicum* cultivars 'Rit-Sat' and 'Lengyel' (Szabó & Bernáth, 2002) as well as for *Ocimum ciliatum* (Moghaddam et al., 2015)."

The corrected sentence appears below:

"The slightly increased VOC concentration observed under I_{Low} in comparison to I_{High} at 35 DAS in cv. Thai Magic (Figure 5T) may indicate that this cultivar reaches its maximum VOC accumulation before flower buds arise (Figure 4D) after which VOC concentrations decrease – an accumulation pattern that has previously been described for the *Ocimum basilicum* cultivars 'Rit-Sat' and 'Lengyel' (Szabó & Bernáth, 2002) as well as for *Ocimum ciliatum* (Moghaddam et al., 2015)."

In the published article, Figures 5U–X are not referenced correctly in the text.

A correction has been made to Results and Discussion, *Cultivar-specific VOC concentrations change over time*, paragraph 10.

This sentence previously stated:

"When comparing total VOC yields produced at the end of the experiment (35 DAS), all cultivars had accumulated substantially greater VOC quantities under I_{High} than basils of the same age under I_{Low} due to the cultivars' overall greater leaf biomasses accumulated under I_{High} (**Table 2** and Figures 4U–X)."

The corrected sentence appears below:

"When comparing total VOC yields produced at the end of the experiment (35 DAS), all cultivars had accumulated substantially greater VOC quantities under I_{High} than basils of the same age under I_{Low} due to the cultivars' overall greater leaf biomasses accumulated under I_{High} (**Table 2** and Figures 5U–X)."

In the published article, there was an error in the legend for Table 9 Energy consumption at marketability of four *Ocimum basilicum* L. cultivars grown under two different light intensities as published. Figures 4A-H are incorrectly referenced.

The legend previously stated:

"DAS = days after sowing; FW = fresh weight; I_{High} = High light intensity; I_{Low} = Low light intensity; na = not available.¹ Marketability is defined as plant height \geq 15 cm and/or number of leaf pairs \geq 4 [by our cooperation partners Oderbruch Müller, an organic nursery in Bad Freienwalde, Germany]; see also Figures 4A–H.² Basil fresh weights [g pot⁻¹] at marketability were calculated using each cultivars' polynomial biomass rates under each light treatment

 $(R^2 > 0.99)$."

The corrected legend appears below:

"DAS = days after sowing; FW = fresh weight; I_{High} = High light intensity; I_{Low} = Low light intensity; na = not available.¹ Marketability is defined as plant height \geq 15 cm and/or number of leaf pairs \geq 4 [by our cooperation partners Oderbruch Müller, an organic nursery in Bad Freienwalde, Germany]; see also Figures 5A-H.² Basil fresh weights [g pot⁻¹] at marketability were calculated using each cultivars' polynomial biomass rates under each light treatment

 $(R^2 > 0.99)$."

The authors apologize for these errors and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

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