

Supplementary tables

Table S1. List of analyzed samples

Type	sample	Species	details	Country	Store
Fruit	BK01	Blackberry	<i>Rubus fruticosus</i> L.	Slovakia	Fresh market
Fruit	BK02	Blackberry	<i>Rubus fruticosus</i> L.	Slovakia	Fresh market
Fruit	BK03	Blackberry	<i>Rubus fruticosus</i> L.	Slovakia	Fresh market
Fruit	BK04	Blackberry	<i>Rubus fruticosus</i> L.	Slovakia	Store
Fruit	BK05	Blackberry	<i>Rubus fruticosus</i> L.	Slovakia	Fresh market
Fruit	BK06	Blackberry	<i>Rubus fruticosus</i> L.	Slovakia	Fresh market
Fruit	BK07	Blackberry	<i>Rubus fruticosus</i> L.	Slovakia	Fresh market
Fruit	BK08	Blackberry	<i>Rubus fruticosus</i> L.	Slovakia	Store
Fruit	BL01	Blueberry	<i>Vaccinium corymbosum</i> L.	Slovakia	Store
Fruit	BL02	Blueberry	<i>Vaccinium corymbosum</i> L.	Slovakia	Store
Fruit	BL03	Blueberry	<i>Vaccinium corymbosum</i> L.	Slovakia	Fresh market
Fruit	BL04	Blueberry	<i>Vaccinium corymbosum</i> L.	Slovakia	Store
Fruit	BL05	Blueberry	<i>Vaccinium corymbosum</i> L.	Slovakia	Fresh market
Fruit	BL06	Blueberry	<i>Vaccinium corymbosum</i> L.	Slovakia	Fresh market
Fruit	BL07	Blueberry	<i>Vaccinium corymbosum</i> L.	Peru	Store
Fruit	BL08	Blueberry	<i>Vaccinium corymbosum</i> L.	Peru	Store
Fruit	BL09	Blueberry	<i>Vaccinium corymbosum</i> L.	Slovakia	Fresh market
Fruit	CK1	Currant	<i>Ribes nigrum</i> L.	Slovakia	Fresh market
Fruit	CK2	Currant	<i>Ribes nigrum</i> L.	Slovakia	Store
Fruit	CK3	Currant	<i>Ribes nigrum</i> L.	Slovakia	Fresh market
Fruit	CR1	Currant	<i>Ribes rubrum</i> L.	Slovakia	Store
Fruit	CR2	Currant	<i>Ribes rubrum</i> L.	Slovakia	Store
Fruit	CR3	Currant	<i>Ribes rubrum</i> L.	Slovakia	Fresh market
Fruit	CR4	Currant	<i>Ribes rubrum</i> L.	Slovakia	Fresh market
Fruit	CR5	Currant	<i>Ribes rubrum</i> L.	Slovakia	Store
Fruit	CR6	Currant	<i>Ribes rubrum</i> L.	Slovakia	Fresh market
Fruit	CR7	Currant	<i>Ribes rubrum</i> L.	Slovakia	Fresh market
Fruit	CR8	Currant	<i>Ribes rubrum</i> L.	Slovakia	Fresh market
Fruit	CR9	Currant	<i>Ribes rubrum</i> L.	Hollandia	Store
Fruit	RB01	Raspberry	<i>Rubus ideaus</i> L.	Slovakia	Fresh market
Fruit	RB02	Raspberry	<i>Rubus ideaus</i> L.	Slovakia	Fresh market
Fruit	RB03	Raspberry	<i>Rubus ideaus</i> L.	Poland	Store
Fruit	RB04	Raspberry	<i>Rubus ideaus</i> L.	Slovakia	Fresh market
Fruit	RB05	Raspberry	<i>Rubus ideaus</i> L.	Slovakia	Store
Fruit	RB06	Raspberry	<i>Rubus ideaus</i> L.	Poland	Store
Fruit	RB07	Raspberry	<i>Rubus ideaus</i> L.	Slovakia	Fresh market
Fruit	RB08	Raspberry	<i>Rubus ideaus</i> L.	Slovakia	Fresh market
Fruit	SB01	Strawberry	<i>Fragaria</i> × <i>ananassa</i>	Slovakia	Fresh market
Fruit	SB02	Strawberry	<i>Fragaria</i> × <i>ananassa</i>	Slovakia	Fresh market
Fruit	SB03	Strawberry	<i>Fragaria</i> × <i>ananassa</i>	Slovakia	Store
Fruit	SB04	Strawberry	<i>Fragaria</i> × <i>ananassa</i>	Poland	Store
Fruit	SB05	Strawberry	<i>Fragaria</i> × <i>ananassa</i>	Slovakia	Fresh market
Fruit	SB06	Strawberry	<i>Fragaria</i> × <i>ananassa</i>	Poland	Store
Fruit	SB07	Strawberry	<i>Fragaria</i> × <i>ananassa</i>	Spain	Store
Fruit	SB08	Strawberry	<i>Fragaria</i> × <i>ananassa</i>	Slovakia	Fresh market
Vegetable	CS01	Cornsalad	<i>Valerianella locusta</i> L.	Czechia	Store
Vegetable	CS02	Cornsalad	<i>Valerianella locusta</i> L.	Austria	Store
Vegetable	CS03	Cornsalad	<i>Valerianella locusta</i> L.	Italia	Store
Vegetable	CS04	Cornsalad	<i>Valerianella locusta</i> L.	Slovakia	Fresh market
Vegetable	CS05	Cornsalad	<i>Valerianella locusta</i> L.	Italia	Store
Vegetable	CS06	Cornsalad	<i>Valerianella locusta</i> L.	Czechia	Store
Vegetable	LG1	Lettuce	Little gem <i>Lactuca sativa</i> L. var.	Czechia	Store

			<i>longifolia</i>		
Vegetable	LG2	Lettuce	Little gem <i>Lactuca sativa</i> L. var. <i>longifolia</i>	Czechia	Store
Vegetable	LG3	Lettuce	Little gem <i>Lactuca sativa</i> L. var. <i>longifolia</i>	Spain	Store
Vegetable	LG4	Lettuce	Little gem <i>Lactuca sativa</i> L. var. <i>longifolia</i>	Spain	Store
Vegetable	LI1	Lettuce	Iceberg <i>Lactuca sativa</i> L. var. <i>capitata</i>	Czechia	Store
Vegetable	LI1in	Lettuce	Iceberg <i>Lactuca sativa</i> L. var. <i>capitata</i> internall leaves of LI1	Czechia	Store
Vegetable	LI2	Lettuce	Iceberg <i>Lactuca sativa</i> L. var. <i>capitata</i>	Poland	Store
Vegetable	LI2in	Lettuce	Iceberg <i>Lactuca sativa</i> L. var. <i>capitata</i> internall leaves of LI2	Poland	Store
Vegetable	LI3	Lettuce	Iceberg <i>Lactuca sativa</i> L. var. <i>capitata</i>	Czechia	Store
Vegetable	LI3in	Lettuce	Iceberg <i>Lactuca sativa</i> L. var. <i>capitata</i> internall leaves of LI3	Czechia	Store
Vegetable	LI4	Lettuce	Iceberg <i>Lactuca sativa</i> L. var. <i>capitata</i>	Spain	Store
Vegetable	LI4in	Lettuce	Iceberg <i>Lactuca sativa</i> L. var. <i>capitata</i> internall leaves of LI4	Spain	Store
Vegetable	LI5	Lettuce	Iceberg <i>Lactuca sativa</i> L. var. <i>capitata</i>	Spain	Store
Vegetable	LI5in	Lettuce	Iceberg <i>Lactuca sativa</i> L. var. <i>capitata</i> internall leaves of LI5	Spain	Store
Vegetable	LI6	Lettuce	Iceberg <i>Lactuca sativa</i> L. var. <i>capitata</i>	Spain	Store
Vegetable	LI6in	Lettuce	Iceberg <i>Lactuca sativa</i> L. var. <i>Capitata</i> internall leaves of LI6	Spain	Store
Vegetable	LL01	Lettuce	leaf -Lollo biondo <i>Lactuca sativa</i> var. <i>crispa</i>	Slovakia	Fresh market
Vegetable	LL02	Lettuce	leaf -Lollo biondo <i>Lactuca sativa</i> var. <i>crispa</i>	Slovakia	Store
Vegetable	LL03	Lettuce	leaf -Lollo rosso <i>Lactuca sativa</i> var. <i>crispa</i>	Slovakia	Store
Vegetable	LL04	Lettuce	leaf -Lollo rosso <i>Lactuca sativa</i> var. <i>crispa</i>	Poland	Store
Vegetable	LL05	Lettuce	leaf -Lollo biondo <i>Lactuca sativa</i> var. <i>crispa</i>	Poland	Store
Vegetable	LR1	Lettuce	Romaine <i>Lactuca sativa</i> L. var. <i>longifolia</i>	Czechia	Store
Vegetable	LR1in	Lettuce	Romaine <i>Lactuca sativa</i> L. var. <i>Longifolia</i> internall leaves of LR1	Czechia	Store
Vegetable	LR2	Lettuce	Romaine <i>Lactuca sativa</i> L. var. <i>longifolia</i>	Germany	Store
Vegetable	LR2in	Lettuce	Romaine <i>Lactuca sativa</i> L. var. <i>Longifolia</i> internall leaves of LR2	Germany	Store
Vegetable	LR3	Lettuce	Romaine <i>Lactuca sativa</i> L. var. <i>longifolia</i>	Slovakia	Fresh market
Vegetable	LR3in	Lettuce	Romaine <i>Lactuca sativa</i> L. var. <i>Longifolia</i> internall leaves of LR3	Slovakia	Fresh market
Vegetable	LR4	Lettuce	Romaine <i>Lactuca sativa</i> L. var. <i>longifolia</i>	Spain	Store
Vegetable	LR4in	Lettuce	Romaine <i>Lactuca sativa</i> L. var. <i>Longifolia</i> internall leaves of LR4	Spain	Store

Vegetable	LR5	Lettuce	Romaine <i>Lactuca sativa</i> L. var. <i>longifolia</i>	Germany	Store
Vegetable	LR5in	Lettuce	Romaine <i>Lactuca sativa</i> L. var. <i>Longifolia</i> internall leaves of LR5	Germany	Store
Vegetable	RO01	Rocket	<i>Diplotaxis tenuifolia</i> L.	Slovakia	Fresh market
Vegetable	RO02	Rocket	<i>Diplotaxis tenuifolia</i> L.	Czechia	Store
Vegetable	RO03	Rocket	<i>Diplotaxis tenuifolia</i> L.	Slovakia	Fresh market
Vegetable	RO04	Rocket	<i>Diplotaxis tenuifolia</i> L.	Czechia	Store
Vegetable	RO05	Rocket	<i>Diplotaxis tenuifolia</i> L.	Italia	Store
Vegetable	RO06	Rocket	<i>Diplotaxis tenuifolia</i> L.	Austria	Store
Vegetable	RO07	Rocket	<i>Diplotaxis tenuifolia</i> L.	Czechia	Store
Vegetable	RO08	Rocket	<i>Diplotaxis tenuifolia</i> L.	Italia	Store
Vegetable	SP01	Spinach	<i>Spinacia oleracea</i> L.	Czechia	Store
Vegetable	SP02	Spinach	<i>Spinacia oleracea</i> L.	Italia	Store
Vegetable	SP03	Spinach	<i>Spinacia oleracea</i> L.	Czechia	Store
Vegetable	SP04	Spinach	<i>Spinacia oleracea</i> L.	Italia	Store
Vegetable	SP05	Spinach	<i>Spinacia oleracea</i> L.	Italia	Store
Vegetable	SP06	Spinach	<i>Spinacia oleracea</i> L.	Italia	Store

Table S2. Primers used for amplification of 16S rRNA gene, ITS2 region and detection of *E. coli* and *Salmonella*.

Target	Primer	Primer sequence	reference
16S rRNA in fresh tissue	515F	5' GTGCCAGCMGCCGCGGTAA 3'	[38]
	799R	5' TAATCTWTGGGVHCATCAGG 3'	[39]
ITS2 region in fresh tissue	gITS7	5' GTGARTCATCGARTCTTG 3'	[40]
	ITS4	5' TCCTCCGCTTATTGATATGC 3'	[41]
16S rRNA in pre-enrichment	515F	5' GTGCCAGCMGCCGCGGTAA 3'	[38]
	907R	5' CCGTCAATTCMTTTRAGT 3'	[42]
Salmonella invA	SalR	5' CGTTTCCTGCGGTACTGTTAATT 3'	[37]
	Sal-F	5' AGACGGCTGGTACTGATCGATAA 3'	
	Sal-p	5' [FAM] CCACGCTCTTTCGTCT [BHQ1] 3'	
Escherichia coli shiga toxin2	Stx1F	5' CATAGTGGAAACCTCACGACGCAGT 3'	[36]
	Stx1R	5' TTTGCCGAAAACGTAAAGCTTCA 3'	
	Stx1P	5' [FAM] TGTGGCAAGAGCGATGTTACGGTTTG [BHQ1] 3'	
Escherichia coli shiga toxin2	Stx2F	5' GGGCAGTTATTTGCTGTGGA 3'	[36]
	Stx2R	5' TGTGCGGTATTAACGAACCC 3'	
	StxP	5' [FAM] CTATCAGGCGCGTTTGGACCATCTTCG [BHQ1] 3'	
Escherichia coli Intimin (eae)	eaeAF	5' GGCGGATTAGACTTCGGCTA 3'	[36]
	eaeAR	5' CGTTTGGCACTATTTGCCC 3'	
	eaeAP	5' [FAM] AACGCCGATACCATTACTTATACCGCGACG [BHQ1] 3'	

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Table S3. Pairwise comparison of microbiome between 9 groups of berry fruits and leafy vegetables

Bacteria in leaf tissue						
Sample	Richness	d	Shannon's Index	d	Eveness	d
Blackberries (n=8)	236±94	a	3.88±1.99	a	0.44±0.234	a
Blueberries (n=9)	291±82	a	5.13±0.89	a	0.587±0.075	a
Strawberries (n=8)	268±34	a	4.65±0.61	a	0.528±0.073	a
Raspberries (n=8)	251±29	a	4.68±0.75	a	0.546±0.102	a
Currants (=12)	250±65	a	4.29±1.20	a	0.489±0.138	a
Lettuce (n=15)	214±69	a	4.25±1.43		0.499±0.162	
Cornsalad (n=6)	232±62	a	4.51±0.61	a	0.537±0.079	a
Spinach (n=6)	257±20	a	4.77±1.00	a	0.553±0.133	a
Rocket (n=8)	204±89	a	3.78±1.58	a	0.450±0.177	a
P-value	0.1466		0.4402		0.4837	

Fungi in leaf tissue						
Sample	Richness	d	Shannon's Index	d	Eveness	d
Blackberries (n=8)	18.8±8.0	a	1.98±1.04	a	0.416±0.205	a
Blueberries (n=9)	22.4±6.6	a	2.40±0.65	a	0.510±0.130	a
Strawberries (n=8)	22.3±11.4	a	2.28±0.87	a	0.487±0.166	a
Raspberries (n=8)	17.5±7.3	a	2.08±1.00	a	0.468±0.209	a
Currants (=12)	22.9±7.1	a	2.59±0.65	a	0.549±0.111	a
Lettuce (n=15)	23.4±10.1	a	2.43±0.96	a	0.515±0.187	a
Cornsalad (n=6)	20.8±8.4	a	2.40±0.85	a	0.521±0.164	a
Spinach (n=6)	22.3±7.8	a	1.98±0.90	a	0.405±0.161	a
Rocket (n=8)	19.0±7.0	a	1.85±1.26	a	0.377±0.226	a
P-value	0.7720		0.6699		0.4398	

Bacteria in pre-enrichment						
Sample	Richness	d	Shannon's Index	d	Eveness	d
Blackberries (n=8)	142±36	a	3.09±1.09	ab	0.392±0.142	a
Blueberries (n=9)	147±48	a	3.42±1.35	abc	0.412±0.152	a
Strawberries (n=8)	195±53	ab	4.30±0.69	abcd	0.515±0.066	a
Raspberries (n=8)	184±60	ab	3.50±1.46	abcd	0.414±0.177	a
Currants (=12)	155±37	a	3.20±1.18	a	0.390±0.149	a
Lettuce (n=15)	281±105	bc	4.20±0.90	abcd	0.452±0.086	a
Cornsalad (n=6)	350±84	c	4.85±0.91	bcd	0.508±0.102	a
Spinach (n=6)	348±37	c	5.15±0.32	d	0.549±0.054	a
Rocket (n=8)	309±87	bc	4.94±0.66	cd	0.543±0.064	a
P-value	0.0001		0.0001		0.0200	

* Averages followed by the same letter are not significantly different within each factor (ANOVA, Tukey test $\alpha=0.05$)

Table S4. Pairwise comparison of microbiome between 9 groups of berry fruits and leafy vegetables

Bacteria in leaf tissue		Blackberries	Blueberries	Strawberries	Raspberries	Currants	Lettuce	Cornsalad	Spinach	Rocket
	Blackberries		0.856	0.388	0.032	0.744	0.003	0.037	0.001	0.012
	Blueberries	0.044		0.334	0.069	0.492	0.001	0.026	0.004	0.006
	Strawberries	0.069	0.067		0.143	0.523	0.001	0.005	0.002	0.001
	Raspberries	0.111	0.098	0.093		0.460	0.001	0.001	0.001	0.003
	Currants	0.041	0.047	0.048	0.050		0.001	0.002	0.001	0.002
	Lettuce	0.075	0.093	0.101	0.147	0.119		0.032	0.002	0.034
	Cornsalad	0.137	0.153	0.193	0.273	0.174	0.059		0.013	0.210
	Spinach	0.239	0.229	0.277	0.360	0.251	0.084	0.213		0.007
	Rocket	0.131	0.142	0.177	0.226	0.160	0.052	0.096	0.161	
Fungi in leaf tissue	x	Blackberries	Blueberries	Strawberries	Raspberries	Currants	Lettuce	Cornsalad	Spinach	Rocket
	Blackberries	h	0.896	0.075	0.079	0.101	0.002	0.095	0.001	0.001
	Blueberries	0.039		0.065	0.133	0.180	0.003	0.330	0.011	0.028
	Strawberries	0.114	0.114		0.055	0.020	0.088	0.147	0.039	0.018
	Raspberries	0.107	0.098	0.123		0.753	0.191	0.374	0.602	0.322
	Currants	0.085	0.068	0.125	0.031		0.004	0.095	0.062	0.038
	Lettuce	0.091	0.084	0.058	0.046	0.071		0.575	0.430	0.173
	Cornsalad	0.106	0.079	0.108	0.079	0.093	0.034		0.300	0.603
	Spinach	0.196	0.172	0.154	0.062	0.119	0.039	0.098		0.498
	Rocket	0.160	0.122	0.144	0.074	0.108	0.048	0.065	0.067	
Bacteria in pre-enrichment	x	Blackberries	Blueberries	Strawberries	Raspberries	Currants	Lettuce	Cornsalad	Spinach	Rocket
	Blackberries		0.810	0.124	0.043	0.034	0.002	0.002	0.002	0.001
	Blueberries	0.045		0.207	0.030	0.102	0.002	0.003	0.001	0.001
	Strawberries	0.089	0.078		0.343	0.004	0.015	0.004	0.001	0.005
	Raspberries	0.114	0.112	0.072		0.003	0.003	0.002	0.003	0.004
	Currants	0.098	0.072	0.133	0.163		0.001	0.004	0.001	0.001
	Lettuce	0.116	0.099	0.072	0.089	0.160		0.046	0.020	0.036
	Cornsalad	0.182	0.149	0.162	0.181	0.216	0.067		0.669	0.021
	Spinach	0.202	0.171	0.173	0.181	0.241	0.075	0.076		0.089
	Rocket	0.221	0.190	0.135	0.129	0.267	0.065	0.151	0.127	

* Values in the upper triangle refer to PERMANOVA P-values and values in the lower triangle refer to R²-values.