Table S1. Characteristics of examined material. available on the Polish food market.

Material	Cultivation	Time of harvest	Country of origin	Supplier
M1	organically grown	summer	Japan	Moya Matcha
M2	organically grown	summer	Japan	Moya Matcha
M3	organically grown	spring	Japan	Moya Matcha
M4	organically grown	spring	China	Oxalis
M5	organically grown	spring	South Korea	Oxalis
M6	organically grown	spring	Japan	Oxalis
M7	organically grown	unknown	South Korea	Brown House & Tea
M8	conventional	spring	Japan	Ju Matcha
M9	conventional	unknown	China	Czas na herbatę
M10	organically grown	unknown	China	Superfoods
M11	organically grown	spring	South Korea	Nokchawon

Material	Cultivation	Time of harvest	Country of origin	Supplier

Table S2. Spearman's rank correlation between parameters for Matcha tea.

		4-hydroxybenzoic acid	apigenin	caffeic acid	caffeine	chlorogenic acid	ellagic acid	epicatechin gallate	ferulic acid	flavonoids	FRAP	gallic acid	kaempferol	myricetin	p-coumaric acid	polyphenols	quercetin	resveratrol	rutin	sinapic acid	TEAC	vitamin C
4-hydroxybenzoic acid	Correlation coefficient	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Significance Level P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
apigenin	Correlation coefficient	0.408	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Significance Level P	0.0251	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
caffeic acid	Correlation coefficient	0.64	0.179	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Significance Level P	0.0001	0.3437	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
caffeine	Correlation coefficient	0.642	0.481	-0.001	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Significance Level P	0.0001	0.0071	0.9953	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
chlorogenic acid	Correlation coefficient	**0.847**	0.592	0.651	0.56	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Significance Level P	<0.0001	0.0006	0.0001	0.0013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ellagic acid	Correlation coefficient	0.162	0.545	0.235	0.382	0.255	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Significance Level P	0.3919	0.0019	0.211	0.037	0.1743	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
epicatechin gallate	Correlation coefficient	0.063	0.103	-0.2	0.225	-0.009	-0.197	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Significance Level P	0.741	0.5897	0.2882	0.2312	0.9618	0.297	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ferulic acid	Correlation coefficient	-0.273	0.277	-0.233	-0.111	-0.047	0.254	-0.346	1	-	-	-	-	-	-	-	-	-	-	-	-	-
	Significance Level P	0.1451	0.1377	0.2146	0.5592	0.8054	0.1759	0.0608	-	-	-	-	-	-	-	-	-	-	-	-	-	-
flavonoids	Correlation coefficient	0.106	-0.229	-0.341	0.561	-0.112	-0.007	0.034	-0.471	1	-	-	-	-	-	-	-	-	-	-	-	-
	Significance Level P	0.5784	0.2237	0.0651	0.0013	0.5545	0.9693	0.8601	0.0087	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAP	Correlation coefficient	-0.549	0.028	-0.228	-0.18	-0.425	0.533	-0.231	0.18	0.295	1	-	-	-	-	-	-	-	-	-	-	-
	Significance Level P	0.0017	0.884	0.2265	0.3413	0.0193	0.0024	0.2191	0.3425	0.003	-	-	-	-	-	-	-	-	-	-	-	-
gallic acid	Correlation coefficient	-0.124	-0.067	0.081	-0.106	-0.037	0.415	-0.749	0.648	-0.102	0.29	1	-	-	-	-	-	-	-	-	-	-
	Significance Level P	0.5141	0.7252	0.6697	0.5768	0.8473	0.0225	<0.0001	0.0001	0.5929	0.1196	-	-	-	-	-	-	-	-	-	-	-
kaempferol	Correlation coefficient	0.371	0.633	-0.024	0.447	0.574	0.212	0.22	0.174	-0.031	-0.032	-0.097	1	-	-	-	-	-	-	-	-	-
	Significance Level P	0.0434	0.0002	0.9006	0.0133	0.0009	0.2617	0.2427	0.3585	0.8693	0.8656	0.6093	-	-	-	-	-	-	-	-	-	-
myricetin	Correlation coefficient	0.152	0.308	0.058	0.269	0.347	0.211	0.551	0.363	-0.357	-0.119	-0.054	0.462	1	-	-	-	-	-	-	-	-
	Significance Level P	0.4242	0.0981	0.7623	0.15	0.0601	0.2638	0.0016	0.0485	0.0531	0.5295	0.7766	0.0102	-	-	-	-	-	-	-	-	-
p-coumaric acid	Correlation coefficient	-0.269	0.108	-0.05	-0.075	-0.09	0.461	-0.578	**0.781**	-0.209	0.326	**0.897**	-0.131	0.116	1	-	-	-	-	-	-	-
	Significance Level P	0.1507	0.571	0.7923	0.6941	0.6376	0.0104	0.0008	<0.0001	0.2666	0.0783	<0.0001	0.4886	0.5423	-	-	-	-	-	-	-	-
polyphenols	Correlation coefficient	-0.535	0.198	-0.201	-0.18	-0.288	0.541	-0.3	0.394	0.299	**0.869**	0.374	0.09	-0.009	0.476	1	-	-	-	-	-	-
	Significance Level P	0.0023	0.294	0.288	0.3404	0.1227	0.002	0.1075	0.0312	0.0026	<0.0001	0.0415	0.6374	0.9637	0.0079	-	-	-	-	-	-	-
quercetin	Correlation coefficient	-0.257	0.102	-0.129	-0.045	-0.047	0.465	-0.59	**0.763**	-0.113	0.418	**0.924**	0.153	0.133	**0.91**	0.551	1	-	-	-	-	-
	Significance Level P	0.171	0.5911	0.4958	0.8144	0.8072	0.0097	0.0006	<0.0001	0.5511	0.0215	<0.0001	0.4185	0.4839	<0.0001	0.0016	-	-	-	-	-	-
resveratrol	Correlation coefficient	**0.752**	0.584	0.628	0.498	**0.707**	0.523	0.254	-0.095	-0.234	-0.234	-0.175	0.354	0.454	-0.186	-0.228	-0.229	1	-	-	-	-
	Significance Level P	<0.0001	0.0007	0.0002	0.0051	<0.0001	0.0031	0.1751	0.6175	0.2128	0.2137	0.356	0.0553	0.0117	0.3246	0.2262	0.2244	-	-	-	-	-
rutin	Correlation coefficient	-0.475	0.156	-0.205	-0.202	-0.19	0.493	-0.352	**0.728**	-0.271	0.554	**0.747**	0.146	0.263	**0.85**	0.686	**0.91**	-0.247	1	-	-	-
	Significance Level P	0.008	0.4112	0.2767	0.2836	0.3134	0.0056	0.0567	<0.0001	0.1477	0.0015	<0.0001	0.4407	0.1607	<0.0001	<0.0001	<0.0001	0.189	-	-	-	-
sinapic acid	Correlation coefficient	0.341	0.585	0.485	0.353	0.442	**0.943**	-0.087	0.114	-0.151	0.361	0.285	0.262	0.308	0.316	0.376	0.305	**0.703**	0.362	1	-	-
	Significance Level P	0.0651	0.0007	0.0066	0.056	0.0146	<0.0001	0.6493	0.5497	0.4256	0.05	0.1263	0.1622	0.0976	0.0889	0.0404	0.1016	<0.0001	0.0496	-	-	-
TEAC	Correlation coefficient	-0.078	0.101	-0.064	0.082	0.044	0.501	-0.468	0.16	0.259	0.61	0.463	0.436	-0.146	0.237	0.566	0.552	-0.051	0.461	0.378	1	-
	Significance Level P	0.6817	0.597	0.7383	0.6671	0.8154	0.0048	0.0091	0.3978	0.0096	<0.0001	0.0099	0.016	0.4429	0.2067	<0.0001	0.0015	0.7901	0.0104	0.0396	-	-
vitamin C	Correlation coefficient	0.077	-0.063	-0.33	0.56	-0.057	-0.143	0.529	-0.21	0.24	-0.036	-0.354	-0.178	0.243	-0.133	0.058	-0.306	-0.025	-0.299	-0.201	-0.535	1
	Significance Level P	0.6877	0.7401	0.0752	0.0013	0.765	0.4514	0.0026	0.2663	0.0169	0.724	0.0548	0.3479	0.1953	0.483	0.571	0.1002	0.8969	0.1089	0.2865	<0.0001	-

Table S3. Summary of the content of polyphenolic acids. flavonoids and caffeine in Matcha tea samples. Data represent the minimum. 25th percentile. median. 75th percentile and maximum values.

Compound	Minimum [mg/L]	25th percentile [mg/L]	Median [mg/L]	75th percentile [mg/L]	Maximum [mg/L]	IQR
4-hydroxybenzoic acid	16.10	40.22	50.02	54.85	95.56	14.63
caffeic acid	1.65	2.60	3.51	9.94	185.94	7.34
chlorogenic acid	15.61	26.69	32.54	43.81	164.08	17.12
ellagic acid	0.85	5.25	9.17	12.55	59.58	7.30
trans-p-coumaric acid	0.00	0.00	0.20	3.52	7.82	3.52
ferulic acid	6.60	8.47	13.83	22.46	29.63	13.99
gallic acid	13.85	37.99	153.01	304.02	1119.42	266.03
sinapic acid	8.09	26.09	30.80	49.91	104.03	23.82
apigenin	3.93	5.57	8.72	9.94	13.97	4.37
epicatechin gallate	2.68	8.66	165.79	196.84	234.03	188.18
kaempferol	0.54	1.10	1.52	3.00	7.68	1.9
myricetin	1.11	5.58	105.23	131.05	153.33	125.47
quercetin	0	0.47	2.98	5.69	20.50	5.22
resveratrol	3.33	14.63	16.71	25.32	36.57	10.69
rutin	0.00	0.00	14.12	38.06	117.51	38.06
caffeine	826.23	1522.57	1853.20	2182.88	7313.22	660.31