

Dr. Duke's Phytochemical and Ethnobotanical Databases
Chemicals found in Brassica oleracea var. botrytis I.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
77	ZINC	Flower	3.0	97.0	3.0606347490514247	--
14	POTASSIUM	Flower	3300.0	49080.0	3.0578856743972493	--
28	CALCIUM	Leaf	360.0	54247.0	2.4468006382605774	--
4	SILICON	Flower	2.0	125.0	2.1795902118292325	--
112	ASCORBIC-ACID	Flower	660.0	9300.0	2.0283569773652044	--
31	THIAMIN	Flower	0.6	12.0	1.9586178131455851	--
0	PROTEIN	Flower	18680.0	300000.0	1.8233202818155771	--
14	SULFUR	Leaf	1200.0	11800.0	1.6302603378370644	--
4	PHOSPHORUS	Flower	385.0	7375.0	1.5411143666705196	--
0	NITROGEN	Leaf	7000.0	71800.0	1.400721017239793	--
4	PUFA	Flower	830.0	10725.0	1.333147880984072	--
15	ALPHA-LINOLENIC-ACID	Leaf	1290.0	13855.0	1.243183883058032	--
4	BORON	Flower	1.0	76.0	1.2304541664359345	--
0	ASH	Flower	6600.0	121250.0	1.2014906628657485	--
0	PROTEIN	Leaf	28710.0	331159.0	1.1902719416088388	--
1	MERCURY	Leaf	0.002	0.09	1.1722789664445759	--
15	RIBOFLAVIN	Flower	0.3	11.0	1.1243491725579133	--
1	METHYL-AMINE	Flower		65.0	1.0000000000000002	--
2	DIMETHYL-AMINE	Flower		14.0	1.0	--
0	NITROGEN	Flower	3100.0	47500.0	1.0	--
0	VIT-B-6	Flower	2.0	30.0	1.0	--
3	NICKEL	Flower	0.03	12.0	1.0	--
0	LINOLENIC-ACID	Flower	640.0	8270.0	1.0	--
5	ALUMINUM	Flower	1.0	150.0	0.9080903837793464	--
11	PANTOTHENIC-ACID	Leaf	5.35	63.0	0.8524389937224381	--
4	PHOSPHORUS	Leaf	644.0	9090.0	0.7577587277969241	--
1	SODIUM	Flower	120.0	2300.0	0.7325478785988843	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
2	MOLYBDENUM	Leaf	0.1	3.76	0.6801012829363977	--
12	COPPER	Leaf	0.68	52.0	0.6699011255650867	--
0	WATER	Plant	894000.0	926000.0	0.6638590552985428	--
4	BORON	Leaf	1.0	85.0	0.6469238451071857	--
8	STEARIC-ACID	Flower	30.0	390.0	0.6447612226140537	--
4	LYSINE	Leaf	1410.0	15143.0	0.5181729835111131	--
112	ASCORBIC-ACID	Leaf	911.0	10360.0	0.5173558895778465	--
0	WATER	Leaf	890000.0	910230.0	0.5118312318849885	--
18	OLEIC-ACID	Flower	120.0	1550.0	0.47798392866277417	--
15	METHIONINE	Leaf	340.0	3652.0	0.46965125289987986	--
13	MUFA	Flower	120.0	1550.0	0.46291004988627577	--
27	LINOLEIC-ACID	Flower	190.0	2455.0	0.4542076634572454	--
32	ALPHA-TOCOPHEROL	Leaf	7.0	439.0	0.35927304562664447	--
14	POTASSIUM	Leaf	3178.0	37270.0	0.3058332790917791	--
3	VALINE	Leaf	1280.0	13747.0	0.29552238675671566	--
0	VIT-B-6	Leaf	1.6	18.0	0.24648148618924984	--
77	ZINC	Leaf	4.0	118.0	0.19739995136190341	--
0	PROLINE	Leaf	1140.0	12244.0	0.14474263630065312	--
13	PALMITIC-ACID	Flower	240.0	3100.0	0.13966281921675727	--
8	GLUTAMIC-ACID	Leaf	3750.0	40275.0	0.12712766718145815	--
29	TRYPTOPHAN	Leaf	290.0	3115.0	0.10979300838520059	--
61	FERULIC-ACID	Leaf		13.0	0.08918222301645602	--
3	ALANINE	Leaf	1180.0	12673.0	0.017867252591863454	--
15	FIBER	Flower	8000.0	132000.0	0.00499085884442514	--
1	SERINE	Leaf	1000.0	10740.0	-0.003085924608790074	--
7	HISTIDINE	Leaf	500.0	5370.0	-0.0031655528062669996	--
4	THREONINE	Leaf	910.0	9773.0	-0.005488458413534491	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	KILOCALORIES	Leaf	280.0	3007.0	-0.017863523924990066	--
12	GLYCINE	Leaf	950.0	10203.0	-0.05657990592554876	--
31	THIAMIN	Leaf	0.6	8.0	-0.06349209547044472	--
15	RIBOFLAVIN	Leaf	1.1	21.0	-0.07942432526480918	--
3	ISOLEUCINE	Leaf	1090.0	11707.0	-0.09196747371544084	--
39	NIACIN	Flower	5.0	85.0	-0.09352864336463278	--
1	SODIUM	Leaf	252.0	3091.0	-0.09830203577402047	--
8	STEARIC-ACID	Leaf	70.0	752.0	-0.13186141525885503	--
2	MOLYBDENUM	Stem		1.76	-0.13934558811150258	--
0	CARBOHYDRATES	Flower	49200.0	635660.0	-0.14105375622194907	--
4	SILICON	Leaf	1.0	90.0	-0.14550202645318341	--
15	FOLACIN	Leaf	0.64	8.4	-0.15226470429048047	--
0	KILOCALORIES	Plant	240.0	3100.0	-0.18505812231826163	--
14	MANGANESE	Flower	1.5	48.0	-0.2230146829051698	--
14	ARGININE	Leaf	1450.0	15573.0	-0.25040545078848814	--
3	ASPARTIC-ACID	Leaf	2130.0	22876.0	-0.262328714251028	--
3	NICKEL	Leaf	0.3	7.0	-0.28467312579555515	--
0	OXALATE	Leaf	1900.0	20406.0	-0.28520935704631206	--
13	PALMITIC-ACID	Leaf	470.0	5048.0	-0.2927982427753776	--
2	COBALT	Leaf	0.02	0.6	-0.29531921745391343	--
6	IRON	Flower	5.0	122.0	-0.3012855132197258	--
0	ASH	Leaf	2800.0	101708.0	-0.30205081182588317	--
0	FAT	Leaf	3160.0	41242.0	-0.30328791009066547	--
18	OLEIC-ACID	Leaf	240.0	2578.0	-0.3066324749217592	--
7	PHENYLALANINE	Leaf	840.0	9022.0	-0.32366072893862124	--
14	MANGANESE	Leaf	2.0	80.0	-0.32688920745367256	--
8	TYROSINE	Leaf	630.0	6766.0	-0.34477094479123366	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
25	P-COUMARIC-ACID	Leaf		13.0	-0.3465642412720655	--
2	LEUCINE	Leaf	1310.0	14069.0	-0.3764770761728601	--
60	SELENIUM	Leaf		0.024	-0.3807027917986485	--
0	CARBOHYDRATES	Leaf	52400.0	562776.0	-0.3902639822213213	--
65	MAGNESIUM	Flower	115.0	2250.0	-0.4063280335551449	--
65	MAGNESIUM	Leaf	214.0	3072.0	-0.406886321355332	--
0	SFA	Flower	270.0	3490.0	-0.423152594485768	--
60	SELENIUM	Stem		0.015	-0.42886426089167784	--
0	FAT	Flower	1800.0	29400.0	-0.4465051083149715	--
15	FIBER	Leaf	10760.0	122866.0	-0.47818554218157117	--
28	CALCIUM	Flower	210.0	4040.0	-0.4787571488570857	--
9	SINAPIC-ACID	Leaf		40.0	-0.5050096614914733	--
9	OXALIC-ACID	Plant		68.0	-0.5351320075910592	--
53	BETA-CAROTENE	Leaf	9.0	138.0	-0.5369565297726103	--
2	COBALT	Flower	0.001	0.125	-0.5425117041971756	--
53	BETA-CAROTENE	Flower		4.0	-0.5606735845287268	--
24	CHROMIUM	Leaf	0.005	0.18	-0.6314530785674829	--
0	LEAD	Leaf	0.01	1.0	-0.6352496573639428	--
6	IRON	Leaf	8.0	109.0	-0.6442917506016965	--
2	CYSTINE	Leaf	200.0	2148.0	-0.6472110127615397	--
0	RUBIDIUM	Leaf	1.0	23.0	-0.6707091074151935	--
27	LINOLEIC-ACID	Leaf	380.0	4081.0	-0.6928297779549968	--
102	CAFFEIC-ACID	Leaf		8.0	-0.7148173591555008	--
4	BORON	Stem		21.0	-0.7419113414039952	--
5	ALUMINUM	Leaf	1.0	27.0	-0.7515974845433717	--
47	BETA-SITOSTEROL	Flower	120.0	1200.0	-0.7745775450534552	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	CADMIUM	Leaf	0.01	0.18	-0.7863999904697607	--
1	MERCURY	Flower	0.0	0.025	-0.9374693023756843	--
12	COPPER	Flower	0.3	8.0	-0.9960623124329469	--
32	ALPHA-TOCOPHEROL	Flower	0.3	4.0	-1.0	--
11	PANTOTHENIC-ACID	Flower	1.4	18.0	-1.0	--
75	KAEMPFEROL	Flower		30.0	-1.0760015465680726	--
0	FLUORINE	Leaf	0.03	0.9	-1.2049539311662678	--
0	AMMONIA(NH3)	Flower		6376.0	-1.2099685441032595	--
24	CHROMIUM	Flower	0.001	0.125	-1.3473800790006203	--
176	QUERCETIN	Flower		6.0	-1.4106513565908647	--
2	CAMPESTEROL	Flower	30.0	300.0		Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
0	GLUCOERUCIN	Leaf	0.0	15020.0		--
2	ARSENIC	Leaf				--
3	PHENETHYL-ISOTHIOCYANATE	Leaf				--
0	5-HYDROXY-GLUCOBRASSICIN	Leaf				--
39	NIACIN	Leaf				--
0	BROMINE	Flower				--
1	HEXYL-ACETATE	Plant				--
0	4-METHOXY-GLUCOBRASSICIN	Flower	15.0	355.0		--
0	BROMINE	Leaf				--
44	QUERCITRIN	Leaf				--
0	GLUCOSINOLATES	Flower	20.0	1140.0		--
25	P-COUMARIC-ACID	Flower		35.0		--
1	GLUCOBRASSICIN	Leaf	30.0	580.0		--
2	TRANS-FERULIC-ACID	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
2	MOLYBDENUM	Flower		0.1		--
0	PENTEN-1-OL	Plant				--
24	ETHANOL	Flower				--
2	LEUCINE	Flower	1160.0	15000.0		--
0	4-METHOXY-INDOL-3-YL-METHYL-GLUCOSINOLATE	Leaf				--
1	NEOGLUCOBRASSICIN	Leaf	10.0	900.0		--
7	SINIGRIN	Flower	0.0	325.0		--
1	4-HYDROXY-GLUCOBRASSICIN	Flower	7.0	390.0		--
176	QUERCETIN	Leaf				--
1	GLUCORAPHANIN	Flower	0.0	990.0		--
0	PROP-2-ENYL-GLUCOSINOLATE	Flower				--
0	HEX-CIS-3-ENOL-ACETATE	Plant				--
7	FUMARIC-ACID	Plant				--
0	PENTAN-3-ONE	Plant				--
23	CITRIC-ACID	Plant				--
0	LEAD	Flower				--
0	4-METHOXY-GLUCOBRASSICIN	Leaf	8.0	580.0		--
0	N-METHYL-BETA-PHENETHYLAMINE	Plant		1.6		--
0	3-METHYLTHIOPROPYL-GLUCOSINOLATE	Flower				--
1	GLUCONASTURTIN	Flower				--
10	ALPHA-AMYRIN	Flower				--
0	PROLINE	Flower	860.0	11110.0		--
0	HEX-CIS-3-EN-1-OL	Plant				--
15	METHIONINE	Flower	280.0	3615.0		--
2	CYSTINE	Flower	230.0	2970.0		--
18	CINNAMIC-ACID	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
1	4-HYDROXY-GLUCOBRASSICIN	Leaf	3.0	325.0		--
9	BETA-AMYRIN	Flower				--
47	BETA-SITOSTEROL	Plant				--
0	GLUCONAPOLEIFERIN	Flower	0.0	80.0		--
3	ALANINE	Flower	1050.0	13565.0		--
1	PROGOITRIN	Flower	0.0	60.0		--
0	3-METHYL-SULFINYL-PROPYL-GLUCOSINOLATE	Flower				--
2	METHANOL	Flower				--
3	VALINE	Flower	1000.0	12920.0		--
75	KAEMPFEROL	Leaf				--
0	3,3'-DIINDOYL-METHANE	Leaf				--
0	BENZYL-AMINE	Flower		1.4		--
1	SERINE	Flower	1040.0	13440.0		--
2	BETA-CRYPTOXANTHIN	Plant				--
1	PROGOITRIN	Leaf				--
1	GLUCOIBERIN	Flower	0.0	1600.0		--
3	ACETONE	Flower				--
7	SUCCINIC-ACID	Plant				--
7	ALPHA-CAROTENE	Plant				--
13	P-HYDROXY-BENZOIC-ACID	Leaf				--
8	TYROSINE	Flower	430.0	5555.0		--
21	CHLOROPHYLL	Leaf				--
0	SEC-BUTYL-ISOTHIOCYANATE	Seed				--
3	ISOLEUCINE	Flower	760.0	9820.0		--
0	24-METHYLENE-CYCLOARTENOL	Leaf				--
60	SELENIUM	Flower				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	GLUCOERUCIN	Flower	0.0	210.0		--
0	ABSCISIC-ACID	Flower				--
2	PHYTOSTEROLS	Flower	180.0	1800.0		Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
0	GLUCOSINOLATES	Leaf	70.0	2120.0		--
1	NEOGLUCOBRASSICIN	Tissue Culture				--
12	STIGMASTEROL	Plant				--
10	ALPHA-AMYRIN	Bud				--
23	CITRIC-ACID	Flower				--
29	TRYPTOPHAN	Flower	260.0	3360.0		--
77	CHLOROGENIC-ACID	Leaf				--
34	SALICYLIC-ACID	Leaf				--
0	1-O-SINAPOYL-BETA-D-GLUCOSE	Leaf				--
2	METHANOL	Plant				--
0	RUBIDIUM	Flower	0.43	11.0		--
2	PHYTOSTEROLS	Plant				--
1	GLUCOBRASSICIN	Flower	60.0	1670.0		--
0	5-METHOXY-GLUCOBRASSICIN	Tissue Culture				--
1	GLUCORAPHANIN	Leaf	255.0	8990.0		--
1	NEOGLUCOBRASSICIN	Flower	8.0	450.0		--
9	BETA-AMYRIN	Bud				--
15	MALIC-ACID	Flower				--
16	ALLYL-ISOTHIOCYANATE	Leaf				--
4	THREONINE	Flower	720.0	9300.0		--
0	INDOLE-3-CARBOXYLIC-ACID	Plant				--
4	4-VINYL-GUAIACOL	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
87	RUTIN	Leaf				--
0	INDOYL-3-METHYL-GLUCOSINOLATE	Flower				--
0	1-O-P-COUMAROYL-BETA-D-GLUCOSE	Leaf				--
2	ARSENIC	Flower				--
9	PHYTIC-ACID	Leaf				--
7	FUMARIC-ACID	Flower				--
0	5-HYDROXY-GLUCOBRASSICIN	Tissue Culture				--
7	PHENYLALANINE	Flower	710.0	9175.0		--
1	GLUCONASTURTIN	Leaf	0.0	145.0		--
24	VANILLIC-ACID	Plant				--
0	N-PENTYL-AMINE	Flower		3.3		--
24	ETHANOL	Plant				--
10	SQUALENE	Plant				--
32	INDOLE-3-CARBINOL	Leaf				--
0	4-METHYL-THIO-BUTYL-GLUCOSINOLATE	Flower				--
7	HISTIDINE	Flower	400.0	5165.0		--
0	1-O-FERULOYL-BETA-D-GLUCOSE	Leaf				--
14	ARGININE	Flower	960.0	12400.0		--
1	QUINIC-ACID	Flower				--
0	FLUORINE	Flower	0.02	2.5		--
12	STIGMASTEROL	Flower	20.0	200.0		Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
3	PHENETHYLAMINE	Flower		1.8		--
0	GLUCONAPOLEIFERIN	Leaf	9.0	135.0		--
0	N-METHYL-PHENETHYLAMINE	Flower		1.6		--
2	DIMETHYL-DISULFIDE	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	LYSINE	Flower	1070.0	13825.0		--
3	ACETONE	Leaf				--
7	SUCCINIC-ACID	Flower				--
3	INDOLE-3-ACETONITRILE	Leaf				--
0	4-METHYL-SULFINYL-BUTYL-GLUCOSINOLATE	Flower				--
12	GLYCINE	Flower	640.0	8270.0		--
0	1-METHOXY-INDOLE-3-CARBALDEHYDE	Plant				--
15	MALIC-ACID	Plant				--
0	ANILINE	Flower		22.0		--
1	GLUCOIBERIN	Leaf	0.0	248.0		--
0	N-METHYL-BETA-PHENETHYLAMINE	Flower		1.6		--
7	SINIGRIN	Plant				--
0	5-METHOXY-GLUCOBRASSICIN	Leaf				--
3	CADMIUM	Flower	0.003	0.25		--
0	4-METHOXY-INDOL-3-YL-METHYL-GLUCOSINOLATE	Flower				--
1	QUINIC-ACID	Leaf				--
8	GLUTAMIC-ACID	Flower	2650.0	34240.0		--
0	1-METHOXY-GLUCOBRASSICIN	Leaf				--