

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
0	1-METHOXY-GLUCOBRASSICIN	Leaf				--
0	1-METHOXY-INDOLE-3-CARBALDEHYDE	Plant				--
0	1-O-FERULOYL-BETA-D-GLUCOSE	Leaf				--
0	1-O-P-COUMAROYL-BETA-D-GLUCOSE	Leaf				--
0	1-O-SINAPOYL-BETA-D-GLUCOSE	Leaf				--
0	24-METHYLENE-CYCLOARTENOL	Leaf				--
0	3,3'-DIINDOYL-METHANE	Leaf				--
0	3-METHYL-SULFINYL-PROPYL-GLUCOSINOLATE	Flower				--
0	3-METHYLTHIOPROPYL-GLUCOSINOLATE	Flower				--
1	4-HYDROXY-GLUCOBRASSICIN	Flower	7.0	390.0		--
1	4-HYDROXY-GLUCOBRASSICIN	Leaf	3.0	325.0		--
0	4-METHOXY-GLUCOBRASSICIN	Flower	15.0	355.0		--
0	4-METHOXY-GLUCOBRASSICIN	Leaf	8.0	580.0		--
0	4-METHOXY-INDOL-3-YL-METHYL-GLUCOSINOLATE	Leaf				--
0	4-METHOXY-INDOL-3-YL-METHYL-GLUCOSINOLATE	Flower				--
0	4-METHYL-SULFINYL-BUTYL-GLUCOSINOLATE	Flower				--
0	4-METHYL-THIO-BUTYL-GLUCOSINOLATE	Flower				--
4	4-VINYL-GUAIACOL	Plant				--
0	5-HYDROXY-GLUCOBRASSICIN	Tissue Culture				--
0	5-HYDROXY-GLUCOBRASSICIN	Leaf				--
0	5-METHOXY-GLUCOBRASSICIN	Tissue Culture				--
0	5-METHOXY-GLUCOBRASSICIN	Leaf				--
0	ABSCISIC-ACID	Flower				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
3	ACETONE	Flower				--
3	ACETONE	Leaf				--
3	ALANINE	Flower	1050.0	13565.0		--
3	ALANINE	Leaf	1180.0	12673.0	0.017867252591863454	--
16	ALLYL-ISOTHIOCYANATE	Leaf				--
10	ALPHA-AMYRIN	Flower				--
10	ALPHA-AMYRIN	Bud				--
7	ALPHA-CAROTENE	Plant				--
15	ALPHA-LINOLENIC-ACID	Leaf	1290.0	13855.0	1.243183883058032	--
32	ALPHA-TOCOPHEROL	Flower	0.3	4.0	-1.0	--
32	ALPHA-TOCOPHEROL	Leaf	7.0	439.0	0.35927304562664447	--
5	ALUMINUM	Leaf	1.0	27.0	-0.7515974845433717	--
5	ALUMINUM	Flower	1.0	150.0	0.9080903837793464	--
0	AMMONIA(NH3)	Flower		6376.0	-1.2099685441032595	--
0	ANILINE	Flower		22.0		--
14	ARGININE	Leaf	1450.0	15573.0	-0.25040545078848814	--
14	ARGININE	Flower	960.0	12400.0		--
2	ARSENIC	Flower				--
2	ARSENIC	Leaf				--
112	ASCORBIC-ACID	Flower	660.0	9300.0	2.0283569773652044	--
112	ASCORBIC-ACID	Leaf	911.0	10360.0	0.5173558895778465	--
0	ASH	Flower	6600.0	121250.0	1.2014906628657485	--
0	ASH	Leaf	2800.0	101708.0	-0.30205081182588317	--
3	ASPARTIC-ACID	Leaf	2130.0	22876.0	-0.262328714251028	--
0	BENZYL-AMINE	Flower		1.4		--
9	BETA-AMYRIN	Flower				--
9	BETA-AMYRIN	Bud				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
53	BETA-CAROTENE	Flower		4.0	-0.5606735845287268	--
53	BETA-CAROTENE	Leaf	9.0	138.0	-0.5369565297726103	--
2	BETA-CRYPTOXANTHIN	Plant				--
47	BETA-SITOSTEROL	Plant				--
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.)
4	BORON	Stem		21.0	-0.7419113414039952	--
4	BORON	Flower	1.0	76.0	1.2304541664359345	--
4	BORON	Leaf	1.0	85.0	0.6469238451071857	--
0	BROMINE	Leaf				--
0	BROMINE	Flower				--
3	CADMIUM	Leaf	0.01	0.18	-0.7863999904697607	--
3	CADMIUM	Flower	0.003	0.25		--
102	CAFFEIC-ACID	Leaf		8.0	-0.7148173591555008	--
28	CALCIUM	Leaf	360.0	54247.0	2.4468006382605774	--
28	CALCIUM	Flower	210.0	4040.0	-0.4787571488570857	--
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	CARBOHYDRATES	Leaf	52400.0	562776.0	-0.3902639822213213	--
0	CARBOHYDRATES	Flower	49200.0	635660.0	-0.14105375622194907	--
77	CHLOROGENIC-ACID	Leaf				--
21	CHLOROPHYLL	Leaf				--
24	CHROMIUM	Leaf	0.005	0.18	-0.6314530785674829	--
24	CHROMIUM	Flower	0.001	0.125	-1.3473800790006203	--
18	CINNAMIC-ACID	Leaf				--
23	CITRIC-ACID	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
23	CITRIC-ACID	Flower				--
2	COBALT	Leaf	0.02	0.6	-0.29531921745391343	--
2	COBALT	Flower	0.001	0.125	-0.5425117041971756	--
12	COPPER	Flower	0.3	8.0	-0.9960623124329469	--
12	COPPER	Leaf	0.68	52.0	0.6699011255650867	--
2	CYSTINE	Flower	230.0	2970.0		--
2	CYSTINE	Leaf	200.0	2148.0	-0.6472110127615397	--
2	DIMETHYL-AMINE	Flower		14.0	1.0	--
2	DIMETHYL-DISULFIDE	Plant				--
24	ETHANOL	Flower				--
24	ETHANOL	Plant				--
0	FAT	Leaf	3160.0	41242.0	-0.30328791009066547	--
0	FAT	Flower	1800.0	29400.0	-0.4465051083149715	--
61	FERULIC-ACID	Leaf		13.0	0.08918222301645602	--
15	FIBER	Leaf	10760.0	122866.0	-0.47818554218157117	--
15	FIBER	Flower	8000.0	132000.0	0.00499085884442514	--
0	FLUORINE	Leaf	0.03	0.9	-1.2049539311662678	--
0	FLUORINE	Flower	0.02	2.5		--
15	FOLACIN	Leaf	0.64	8.4	-0.15226470429048047	--
7	FUMARIC-ACID	Plant				--
7	FUMARIC-ACID	Flower				--
1	GLUCOBRASSICIN	Leaf	30.0	580.0		--
1	GLUCOBRASSICIN	Flower	60.0	1670.0		--
0	GLUCOERUCIN	Leaf	0.0	15020.0		--
0	GLUCOERUCIN	Flower	0.0	210.0		--
1	GLUCOIBERIN	Flower	0.0	1600.0		--
1	GLUCOIBERIN	Leaf	0.0	248.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	GLUCONAPOLEIFERIN	Flower	0.0	80.0		--
0	GLUCONAPOLEIFERIN	Leaf	9.0	135.0		--
1	GLUCONASTURTIN	Flower				--
1	GLUCONASTURTIN	Leaf	0.0	145.0		--
1	GLUCORAPHANIN	Flower	0.0	990.0		--
1	GLUCORAPHANIN	Leaf	255.0	8990.0		--
0	GLUCOSINOLATES	Flower	20.0	1140.0		--
0	GLUCOSINOLATES	Leaf	70.0	2120.0		--
8	GLUTAMIC-ACID	Leaf	3750.0	40275.0	0.12712766718145815	--
8	GLUTAMIC-ACID	Flower	2650.0	34240.0		--
12	GLYCINE	Leaf	950.0	10203.0	-0.05657990592554876	--
12	GLYCINE	Flower	640.0	8270.0		--
0	HEX-CIS-3-EN-1-OL	Plant				--
0	HEX-CIS-3-ENOL-ACETATE	Plant				--
1	HEXYL-ACETATE	Plant				--
7	HISTIDINE	Leaf	500.0	5370.0	-0.0031655528062669996	--
7	HISTIDINE	Flower	400.0	5165.0		--
3	INDOLE-3-ACETONITRILE	Leaf				--
32	INDOLE-3-CARBINOL	Leaf				--
0	INDOLE-3-CARBOXYLIC-ACID	Plant				--
0	INDOYL-3-METHYL-GLUCOSINOLATE	Flower				--
6	IRON	Flower	5.0	122.0	-0.3012855132197258	--
6	IRON	Leaf	8.0	109.0	-0.6442917506016965	--
3	ISOLEUCINE	Flower	760.0	9820.0		--
3	ISOLEUCINE	Leaf	1090.0	11707.0	-0.09196747371544084	--
75	KAEMPFEROL	Flower		30.0	-1.0760015465680726	--
75	KAEMPFEROL	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	KILOCALORIES	Plant	240.0	3100.0	-0.18505812231826163	--
0	KILOCALORIES	Leaf	280.0	3007.0	-0.017863523924990066	--
0	LEAD	Flower				--
0	LEAD	Leaf	0.01	1.0	-0.6352496573639428	--
2	LEUCINE	Flower	1160.0	15000.0		--
2	LEUCINE	Leaf	1310.0	14069.0	-0.3764770761728601	--
27	LINOLEIC-ACID	Flower	190.0	2455.0	0.4542076634572454	--
27	LINOLEIC-ACID	Leaf	380.0	4081.0	-0.6928297779549968	--
0	LINOLENIC-ACID	Flower	640.0	8270.0	1.0	--
4	LYSINE	Flower	1070.0	13825.0		--
4	LYSINE	Leaf	1410.0	15143.0	0.5181729835111131	--
65	MAGNESIUM	Flower	115.0	2250.0	-0.4063280335551449	--
65	MAGNESIUM	Leaf	214.0	3072.0	-0.406886321355332	--
15	MALIC-ACID	Flower				--
15	MALIC-ACID	Plant				--
14	MANGANESE	Flower	1.5	48.0	-0.2230146829051698	--
14	MANGANESE	Leaf	2.0	80.0	-0.32688920745367256	--
1	MERCURY	Flower	0.0	0.025	-0.9374693023756843	--
1	MERCURY	Leaf	0.002	0.09	1.1722789664445759	--
2	METHANOL	Flower				--
2	METHANOL	Plant				--
15	METHIONINE	Flower	280.0	3615.0		--
15	METHIONINE	Leaf	340.0	3652.0	0.46965125289987986	--
1	METHYL-AMINE	Flower		65.0	1.0000000000000002	--
2	MOLYBDENUM	Flower		0.1		--
2	MOLYBDENUM	Stem		1.76	-0.13934558811150258	--
2	MOLYBDENUM	Leaf	0.1	3.76	0.6801012829363977	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
13	MUFA	Flower	120.0	1550.0	0.46291004988627577	--
0	N-METHYL-BETA-PHENETHYLAMINE	Plant		1.6		--
0	N-METHYL-BETA-PHENETHYLAMINE	Flower		1.6		--
0	N-METHYL-PHENETHYLAMINE	Flower		1.6		--
0	N-PENTYL-AMINE	Flower		3.3		--
1	NEOGLUCOBRASSICIN	Leaf	10.0	900.0		--
1	NEOGLUCOBRASSICIN	Tissue Culture				--
1	NEOGLUCOBRASSICIN	Flower	8.0	450.0		--
39	NIACIN	Flower	5.0	85.0	-0.09352864336463278	--
39	NIACIN	Leaf				--
3	NICKEL	Flower	0.03	12.0	1.0	--
3	NICKEL	Leaf	0.3	7.0	-0.28467312579555515	--
0	NITROGEN	Flower	3100.0	47500.0	1.0	--
0	NITROGEN	Leaf	7000.0	71800.0	1.400721017239793	--
18	OLEIC-ACID	Flower	120.0	1550.0	0.47798392866277417	--
18	OLEIC-ACID	Leaf	240.0	2578.0	-0.3066324749217592	--
0	OXALATE	Leaf	1900.0	20406.0	-0.28520935704631206	--
9	OXALIC-ACID	Plant		68.0	-0.5351320075910592	--
25	P-COUMARIC-ACID	Flower		35.0		--
25	P-COUMARIC-ACID	Leaf		13.0	-0.3465642412720655	--
13	P-HYDROXY-BENZOIC-ACID	Leaf				--
13	PALMITIC-ACID	Leaf	470.0	5048.0	-0.2927982427753776	--
13	PALMITIC-ACID	Flower	240.0	3100.0	0.13966281921675727	--
11	PANTOTHENIC-ACID	Leaf	5.35	63.0	0.8524389937224381	--
11	PANTOTHENIC-ACID	Flower	1.4	18.0	-1.0	--
0	PENTAN-3-ONE	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PENTEN-1-OL	Plant				--
3	PHENETHYL-ISOTHIOCYANATE	Leaf				--
3	PHENETHYLAMINE	Flower		1.8		--
7	PHENYLALANINE	Flower	710.0	9175.0		--
7	PHENYLALANINE	Leaf	840.0	9022.0	-0.32366072893862124	--
4	PHOSPHORUS	Flower	385.0	7375.0	1.5411143666705196	--
4	PHOSPHORUS	Leaf	644.0	9090.0	0.7577587277969241	--
9	PHYTIC-ACID	Leaf				--
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.)
2	PHYTOSTEROLS	Plant				--
14	POTASSIUM	Flower	3300.0	49080.0	3.0578856743972493	--
14	POTASSIUM	Leaf	3178.0	37270.0	0.3058332790917791	--
1	PROGOITRIN	Flower	0.0	60.0		--
1	PROGOITRIN	Leaf				--
0	PROLINE	Flower	860.0	11110.0		--
0	PROLINE	Leaf	1140.0	12244.0	0.14474263630065312	--
0	PROP-2-ENYL-GLUCOSINOLATE	Flower				--
0	PROTEIN	Flower	18680.0	300000.0	1.8233202818155771	--
0	PROTEIN	Leaf	28710.0	331159.0	1.1902719416088388	--
4	PUFA	Flower	830.0	10725.0	1.333147880984072	--
176	QUERCETIN	Leaf				--
176	QUERCETIN	Flower		6.0	-1.4106513565908647	--
44	QUERCITRIN	Leaf				--
1	QUINIC-ACID	Flower				--
1	QUINIC-ACID	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	RIBOFLAVIN	Flower	0.3	11.0	1.1243491725579133	--
15	RIBOFLAVIN	Leaf	1.1	21.0	-0.07942432526480918	--
0	RUBIDIUM	Flower	0.43	11.0		--
0	RUBIDIUM	Leaf	1.0	23.0	-0.6707091074151935	--
87	RUTIN	Leaf				--
34	SALICYLIC-ACID	Leaf				--
0	SEC-BUTYL-ISOTHIOCYANATE	Seed				--
60	SELENIUM	Stem		0.015	-0.42886426089167784	--
60	SELENIUM	Leaf		0.024	-0.3807027917986485	--
60	SELENIUM	Flower				--
1	SERINE	Leaf	1000.0	10740.0	-0.003085924608790074	--
1	SERINE	Flower	1040.0	13440.0		--
0	SFA	Flower	270.0	3490.0	-0.423152594485768	--
4	SILICON	Leaf	1.0	90.0	-0.14550202645318341	--
4	SILICON	Flower	2.0	125.0	2.1795902118292325	--
9	SINAPIC-ACID	Leaf		40.0	-0.5050096614914733	--
7	SINIGRIN	Flower	0.0	325.0		--
7	SINIGRIN	Plant				--
1	SODIUM	Leaf	252.0	3091.0	-0.09830203577402047	--
1	SODIUM	Flower	120.0	2300.0	0.7325478785988843	--
10	SQUALENE	Plant				--
8	STEARIC-ACID	Leaf	70.0	752.0	-0.13186141525885503	--
8	STEARIC-ACID	Flower	30.0	390.0	0.6447612226140537	--
12	STIGMASTEROL	Plant				--
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.)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
7	SUCCINIC-ACID	Plant				--
7	SUCCINIC-ACID	Flower				--
14	SULFUR	Leaf	1200.0	11800.0	1.6302603378370644	--
31	THIAMIN	Leaf	0.6	8.0	-0.06349209547044472	--
31	THIAMIN	Flower	0.6	12.0	1.9586178131455851	--
4	THREONINE	Leaf	910.0	9773.0	-0.005488458413534491	--
4	THREONINE	Flower	720.0	9300.0		--
2	TRANS-FERULIC-ACID	Leaf				--
29	TRYPTOPHAN	Leaf	290.0	3115.0	0.10979300838520059	--
29	TRYPTOPHAN	Flower	260.0	3360.0		--
8	TYROSINE	Flower	430.0	5555.0		--
8	TYROSINE	Leaf	630.0	6766.0	-0.34477094479123366	--
3	VALINE	Flower	1000.0	12920.0		--
3	VALINE	Leaf	1280.0	13747.0	0.29552238675671566	--
24	VANILLIC-ACID	Plant				--
0	VIT-B-6	Flower	2.0	30.0	1.0	--
0	VIT-B-6	Leaf	1.6	18.0	0.24648148618924984	--
0	WATER	Plant	894000.0	926000.0	0.6638590552985428	--
0	WATER	Leaf	890000.0	910230.0	0.5118312318849885	--
77	ZINC	Flower	3.0	97.0	3.0606347490514247	--
77	ZINC	Leaf	4.0	118.0	0.19739995136190341	--