Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in Brassica oleracea var. botrytis l.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
77	ZINC	Flower	3.0	97.0	3.0606347490514247	--
77	ZINC	Leaf	4.0	118.0	0.19739995136190341	--
0	WATER	Plant	894000.0	926000.0	0.6638590552985428	--
0	WATER	Leaf	890000.0	910230.0	0.5118312318849885	--
0	VIT-B-6	Flower	2.0	30.0	1.0	--
0	VIT-B-6	Leaf	1.6	18.0	0.24648148618924984	--
24	VANILLIC-ACID	Plant				--
3	VALINE	Flower	1000.0	12920.0		--
3	VALINE	Leaf	1280.0	13747.0	0.29552238675671566	--
8	TYROSINE	Leaf	630.0	6766.0	-0.34477094479123366	--
8	TYROSINE	Flower	430.0	5555.0		--
29	TRYPTOPHAN	Leaf	290.0	3115.0	0.10979300838520059	--
29	TRYPTOPHAN	Flower	260.0	3360.0		--
2	TRANS-FERULIC-ACID	Leaf				--
4	THREONINE	Leaf	910.0	9773.0	-0.005488458413534491	--
4	THREONINE	Flower	720.0	9300.0		--
31	THIAMIN	Leaf	0.6	8.0	-0.06349209547044472	--
31	THIAMIN	Flower	0.6	12.0	1.9586178131455851	--
14	SULFUR	Leaf	1200.0	11800.0	1.6302603378370644	--
7	SUCCINIC-ACID	Flower				--
7	SUCCINIC-ACID	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.)
12	STIGMASTEROL	Plant				--
8	STEARIC-ACID	Flower	30.0	390.0	0.6447612226140537	--
8	STEARIC-ACID	Leaf	70.0	752.0	-0.13186141525885503	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
10	SQUALENE	Plant				--
1	SODIUM	Flower	120.0	2300.0	0.7325478785988843	--
1	SODIUM	Leaf	252.0	3091.0	-0.09830203577402047	--
7	SINIGRIN	Plant				--
7	SINIGRIN	Flower	0.0	325.0		--
9	SINAPIC-ACID	Leaf		40.0	-0.5050096614914733	--
4	SILICON	Leaf	1.0	90.0	-0.14550202645318341	--
4	SILICON	Flower	2.0	125.0	2.1795902118292325	--
0	SFA	Flower	270.0	3490.0	-0.423152594485768	--
1	SERINE	Leaf	1000.0	10740.0	-0.003085924608790074	--
1	SERINE	Flower	1040.0	13440.0		--
60	SELENIUM	Stem		0.015	-0.42886426089167784	--
60	SELENIUM	Leaf		0.024	-0.3807027917986485	--
60	SELENIUM	Flower				--
0	SEC-BUTYL-ISOTHIOCYANATE	Seed				--
34	SALICYLIC-ACID	Leaf				--
87	RUTIN	Leaf				--
0	RUBIDIUM	Flower	0.43	11.0		--
0	RUBIDIUM	Leaf	1.0	23.0	-0.6707091074151935	--
15	RIBOFLAVIN	Leaf	1.1	21.0	-0.07942432526480918	--
15	RIBOFLAVIN	Flower	0.3	11.0	1.1243491725579133	--
1	QUINIC-ACID	Leaf				--
1	QUINIC-ACID	Flower				--
44	QUERCITRIN	Leaf				--
176	QUERCETIN	Flower		6.0	-1.4106513565908647	--
176	QUERCETIN	Leaf				--
4	PUFA	Flower	830.0	10725.0	1.333147880984072	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	PROTEIN	Flower	18680.0	300000.0	1.8233202818155771	--
0	PROTEIN	Leaf	28710.0	331159.0	1.1902719416088388	--
0	PROP-2-ENYL-GLUCOSINOLATE	Flower				--
0	PROLINE	Flower	860.0	11110.0		--
0	PROLINE	Leaf	1140.0	12244.0	0.14474263630065312	--
1	PROGOITRIN	Flower	0.0	60.0		--
1	PROGOITRIN	Leaf				--
14	POTASSIUM	Flower	3300.0	49080.0	3.0578856743972493	--
14	POTASSIUM	Leaf	3178.0	37270.0	0.3058332790917791	--
2	PHYTOSTEROLS	Plant				--
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.)
9	PHYTIC-ACID	Leaf				--
4	PHOSPHORUS	Leaf	644.0	9090.0	0.7577587277969241	--
4	PHOSPHORUS	Flower	385.0	7375.0	1.5411143666705196	--
7	PHENYLALANINE	Leaf	840.0	9022.0	-0.32366072893862124	--
7	PHENYLALANINE	Flower	710.0	9175.0		--
3	PHENETHYLAMINE	Flower		1.8		--
3	PHENETHYL-ISOTHIOCYANATE	Leaf				--
0	PENTEN-1-OL	Plant				--
0	PENTAN-3-ONE	Plant				--
11	PANTOTHENIC-ACID	Flower	1.4	18.0	-1.0	--
11	PANTOTHENIC-ACID	Leaf	5.35	63.0	0.8524389937224381	--
13	PALMITIC-ACID	Flower	240.0	3100.0	0.13966281921675727	--
13	PALMITIC-ACID	Leaf	470.0	5048.0	-0.2927982427753776	--
13	P-HYDROXY-BENZOIC-ACID	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
25	P-COUMARIC-ACID	Flower		35.0		--
25	P-COUMARIC-ACID	Leaf		13.0	-0.3465642412720655	--
9	OXALIC-ACID	Plant		68.0	-0.5351320075910592	--
0	OXALATE	Leaf	1900.0	20406.0	-0.28520935704631206	--
18	OLEIC-ACID	Flower	120.0	1550.0	0.47798392866277417	--
18	OLEIC-ACID	Leaf	240.0	2578.0	-0.3066324749217592	--
0	NITROGEN	Flower	3100.0	47500.0	1.0	--
0	NITROGEN	Leaf	7000.0	71800.0	1.400721017239793	--
3	NICKEL	Flower	0.03	12.0	1.0	--
3	NICKEL	Leaf	0.3	7.0	-0.28467312579555515	--
39	NIACIN	Leaf				--
39	NIACIN	Flower	5.0	85.0	-0.09352864336463278	--
1	NEOGLUCOBRASSICIN	Leaf	10.0	900.0		--
1	NEOGLUCOBRASSICIN	Tissue Culture				--
1	NEOGLUCOBRASSICIN	Flower	8.0	450.0		--
0	N-PENTYL-AMINE	Flower		3.3		--
0	N-METHYL-PHENETHYLAMINE	Flower		1.6		--
0	N-METHYL-BETA-PHENETHYLAMINE	Plant		1.6		--
0	N-METHYL-BETA-PHENETHYLAMINE	Flower		1.6		--
13	MUFA	Flower	120.0	1550.0	0.46291004988627577	--
2	MOLYBDENUM	Stem		1.76	-0.13934558811150258	--
2	MOLYBDENUM	Leaf	0.1	3.76	0.6801012829363977	--
2	MOLYBDENUM	Flower		0.1		--
1	METHYL-AMINE	Flower		65.0	1.0000000000000002	--
15	METHIONINE	Flower	280.0	3615.0		--
15	METHIONINE	Leaf	340.0	3652.0	0.46965125289987986	--
2	METHANOL	Flower				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
2	METHANOL	Plant				--
1	MERCURY	Flower	0.0	0.025	-0.9374693023756843	--
1	MERCURY	Leaf	0.002	0.09	1.1722789664445759	--
14	MANGANESE	Flower	1.5	48.0	-0.2230146829051698	--
14	MANGANESE	Leaf	2.0	80.0	-0.32688920745367256	--
15	MALIC-ACID	Flower				--
15	MALIC-ACID	Plant				--
65	MAGNESIUM	Flower	115.0	2250.0	-0.4063280335551449	--
65	MAGNESIUM	Leaf	214.0	3072.0	-0.406886321355332	--
4	LYSINE	Flower	1070.0	13825.0		--
4	LYSINE	Leaf	1410.0	15143.0	0.5181729835111131	--
0	LINOLENIC-ACID	Flower	640.0	8270.0	1.0	--
27	LINOLEIC-ACID	Leaf	380.0	4081.0	-0.6928297779549968	--
27	LINOLEIC-ACID	Flower	190.0	2455.0	0.4542076634572454	--
2	LEUCINE	Leaf	1310.0	14069.0	-0.3764770761728601	--
2	LEUCINE	Flower	1160.0	15000.0		--
0	LEAD	Leaf	0.01	1.0	-0.6352496573639428	--
0	LEAD	Flower				--
0	KILOCALORIES	Leaf	280.0	3007.0	-0.017863523924990066	--
0	KILOCALORIES	Plant	240.0	3100.0	-0.18505812231826163	--
75	KAEMPFEROL	Leaf				--
75	KAEMPFEROL	Flower		30.0	-1.0760015465680726	--
3	ISOLEUCINE	Leaf	1090.0	11707.0	-0.09196747371544084	--
3	ISOLEUCINE	Flower	760.0	9820.0		--
6	IRON	Leaf	8.0	109.0	-0.6442917506016965	--
6	IRON	Flower	5.0	122.0	-0.3012855132197258	--
0	INDOYL-3-METHYL-GLUCOSINOLATE	Flower				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	INDOLE-3-CARBOXYLIC-ACID	Plant				--
32	INDOLE-3-CARBINOL	Leaf				--
3	INDOLE-3-ACETONITRILE	Leaf				--
7	HISTIDINE	Leaf	500.0	5370.0	-0.0031655528062669996	--
7	HISTIDINE	Flower	400.0	5165.0		--
1	HEXYL-ACETATE	Plant				--
0	HEX-CIS-3-ENOL-ACETATE	Plant				--
0	HEX-CIS-3-EN-1-OL	Plant				--
12	GLYCINE	Flower	640.0	8270.0		--
12	GLYCINE	Leaf	950.0	10203.0	-0.05657990592554876	--
8	GLUTAMIC-ACID	Flower	2650.0	34240.0		--
8	GLUTAMIC-ACID	Leaf	3750.0	40275.0	0.12712766718145815	--
0	GLUCOSINOLATES	Flower	20.0	1140.0		--
0	GLUCOSINOLATES	Leaf	70.0	2120.0		--
1	GLUCORAPHANIN	Flower	0.0	990.0		--
1	GLUCORAPHANIN	Leaf	255.0	8990.0		--
1	GLUCONASTURTIN	Flower				--
1	GLUCONASTURTIN	Leaf	0.0	145.0		--
0	GLUCONAPOLEIFERIN	Flower	0.0	80.0		--
0	GLUCONAPOLEIFERIN	Leaf	9.0	135.0		--
1	GLUCOIBERIN	Leaf	0.0	248.0		--
1	GLUCOIBERIN	Flower	0.0	1600.0		--
0	GLUCOERUCIN	Leaf	0.0	15020.0		--
0	GLUCOERUCIN	Flower	0.0	210.0		--
1	GLUCOBRASSICIN	Leaf	30.0	580.0		--
1	GLUCOBRASSICIN	Flower	60.0	1670.0		--
7	FUMARIC-ACID	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
7	FUMARIC-ACID	Flower				--
15	FOLACIN	Leaf	0.64	8.4	-0.15226470429048047	--
0	FLUORINE	Leaf	0.03	0.9	-1.2049539311662678	--
0	FLUORINE	Flower	0.02	2.5		--
15	FIBER	Flower	8000.0	132000.0	0.00499085884442514	--
15	FIBER	Leaf	10760.0	122866.0	-0.47818554218157117	--
61	FERULIC-ACID	Leaf		13.0	0.08918222301645602	--
0	FAT	Flower	1800.0	29400.0	-0.4465051083149715	--
0	FAT	Leaf	3160.0	41242.0	-0.30328791009066547	--
24	ETHANOL	Flower				--
24	ETHANOL	Plant				--
2	DIMETHYL-DISULFIDE	Plant				--
2	DIMETHYL-AMINE	Flower		14.0	1.0	--
2	CYSTINE	Flower	230.0	2970.0		--
2	CYSTINE	Leaf	200.0	2148.0	-0.6472110127615397	--
12	COPPER	Flower	0.3	8.0	-0.9960623124329469	--
12	COPPER	Leaf	0.68	52.0	0.6699011255650867	--
2	COBALT	Leaf	0.02	0.6	-0.29531921745391343	--
2	COBALT	Flower	0.001	0.125	-0.5425117041971756	--
23	CITRIC-ACID	Plant				--
23	CITRIC-ACID	Flower				--
18	CINNAMIC-ACID	Leaf				--
24	CHROMIUM	Leaf	0.005	0.18	-0.6314530785674829	--
24	CHROMIUM	Flower	0.001	0.125	-1.3473800790006203	--
21	CHLOROPHYLL	Leaf				--
77	CHLOROGENIC-ACID	Leaf				--
0	CARBOHYDRATES	Leaf	52400.0	562776.0	-0.3902639822213213	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	CARBOHYDRATES	Flower	49200.0	635660.0	-0.14105375622194907	--
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.)
28	CALCIUM	Flower	210.0	4040.0	-0.4787571488570857	--
28	CALCIUM	Leaf	360.0	54247.0	2.4468006382605774	--
102	CAFFEIC-ACID	Leaf		8.0	-0.7148173591555008	--
3	CADMIUM	Flower	0.003	0.25		--
3	CADMIUM	Leaf	0.01	0.18	-0.7863999904697607	--
0	BROMINE	Leaf				--
0	BROMINE	Flower				--
4	BORON	Stem		21.0	-0.7419113414039952	--
4	BORON	Leaf	1.0	85.0	0.6469238451071857	--
4	BORON	Flower	1.0	76.0	1.2304541664359345	--
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.)
47	BETA-SITOSTEROL	Plant				--
2	BETA-CRYPTOXANTHIN	Plant				--
53	BETA-CAROTENE	Flower		4.0	-0.5606735845287268	--
53	BETA-CAROTENE	Leaf	9.0	138.0	-0.5369565297726103	--
9	BETA-AMYRIN	Flower				--
9	BETA-AMYRIN	Bud				--
0	BENZYL-AMINE	Flower		1.4		--
3	ASPARTIC-ACID	Leaf	2130.0	22876.0	-0.262328714251028	--
0	ASH	Flower	6600.0	121250.0	1.2014906628657485	--
0	ASH	Leaf	2800.0	101708.0	-0.30205081182588317	--
112	ASCORBIC-ACID	Flower	660.0	9300.0	2.0283569773652044	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
112	ASCORBIC-ACID	Leaf	911.0	10360.0	0.5173558895778465	--
2	ARSENIC	Flower				--
2	ARSENIC	Leaf				--
14	ARGININE	Leaf	1450.0	15573.0	-0.25040545078848814	--
14	ARGININE	Flower	960.0	12400.0		--
0	ANILINE	Flower		22.0		--
0	AMMONIA(NH3)	Flower		6376.0	-1.2099685441032595	--
5	ALUMINUM	Flower	1.0	150.0	0.9080903837793464	--
5	ALUMINUM	Leaf	1.0	27.0	-0.7515974845433717	--
32	ALPHA-TOCOPHEROL	Flower	0.3	4.0	-1.0	--
32	ALPHA-TOCOPHEROL	Leaf	7.0	439.0	0.35927304562664447	--
15	ALPHA-LINOLENIC-ACID	Leaf	1290.0	13855.0	1.243183883058032	--
7	ALPHA-CAROTENE	Plant				--
10	ALPHA-AMYRIN	Flower				--
10	ALPHA-AMYRIN	Bud				--
16	ALLYL-ISOTHIOCYANATE	Leaf				--
3	ALANINE	Flower	1050.0	13565.0		--
3	ALANINE	Leaf	1180.0	12673.0	0.017867252591863454	--
3	ACETONE	Flower				--
3	ACETONE	Leaf				--
0	ABSCISIC-ACID	Flower				--
0	5-METHOXY-GLUCOBRASSICIN	Tissue Culture				--
0	5-METHOXY-GLUCOBRASSICIN	Leaf				--
0	5-HYDROXY-GLUCOBRASSICIN	Tissue Culture				--
0	5-HYDROXY-GLUCOBRASSICIN	Leaf				--
4	4-VINYL-GUAIACOL	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	4-METHYL-THIO-BUTYL-GLUCOSINOLATE	Flower				--
0	4-METHYL-SULFINYL-BUTYL-GLUCOSINOLATE	Flower				--
0	4-METHOXY-INDOL-3-YL-METHYL-GLUCOSINOLATE	Leaf				--
0	4-METHOXY-INDOL-3-YL-METHYL-GLUCOSINOLATE	Flower				--
0	4-METHOXY-GLUCOBRASSICIN	Leaf	8.0	580.0		--
0	4-METHOXY-GLUCOBRASSICIN	Flower	15.0	355.0		--
1	4-HYDROXY-GLUCOBRASSICIN	Leaf	3.0	325.0		--
1	4-HYDROXY-GLUCOBRASSICIN	Flower	7.0	390.0		--
0	3-METHYLTHIOPROPYL-GLUCOSINOLATE	Flower				--
0	3-METHYL-SULFINYL-PROPYL-GLUCOSINOLATE	Flower				--
0	3,3'-DIINDOYL-METHANE	Leaf				--
0	24-METHYLENE-CYCLOARTENOL	Leaf				--
0	1-O-SINAPOYL-BETA-D-GLUCOSE	Leaf				--
0	1-O-P-COUMAROYL-BETA-D-GLUCOSE	Leaf				--
0	1-O-FERULOYL-BETA-D-GLUCOSE	Leaf				--
0	1-METHOXY-INDOLE-3-CARBALDEHYDE	Plant				--
0	1-METHOXY-GLUCOBRASSICIN	Leaf				--