

Dr. Duke's Phytochemical and Ethnobotanical Database

Chemicals Found in Brassica oleracea var. botrytis I.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	4-HYDROXY-GLUCOBRASSICIN	Flower	7	390		
1	4-HYDROXY-GLUCOBRASSICIN	Leaf	3	325		
4	4-VINYLGUAIACOL	Plant	--	--		
3	ACETONE	Flower	--	--		
3	ACETONE	Leaf	--	--		
3	ALANINE	Flower	1050	13565		
3	ALANINE	Leaf	1180	12673	0.017867252591863454	
16	ALLYL-ISOTHIOCYANATE	Leaf	--	--		
10	ALPHA-AMYRIN	Bud	--	--		
10	ALPHA-AMYRIN	Flower	--	--		
7	ALPHA-CAROTENE	Plant	--	--		
15	ALPHA-LINOLENIC-ACID	Leaf	1290	13855	1.243183883058032	
32	ALPHA-TOCOPHEROL	Leaf	7	439	0.35927304562664447	
32	ALPHA-TOCOPHEROL	Flower	0.3	4	-1	
5	ALUMINUM	Leaf	1	27	-0.7515974845433717	
5	ALUMINUM	Flower	1	150	0.9080903837793464	
14	ARGININE	Leaf	1450	15573	-0.25040545078848814	
14	ARGININE	Flower	960	12400		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	ARSENIC	Leaf	--	--		
2	ARSENIC	Flower	--	--		
112	ASCORBIC-ACID	Flower	660	9300	2.0283569773652044	
112	ASCORBIC-ACID	Leaf	911	10360	0.5173558895778465	
3	ASPARTIC-ACID	Leaf	2130	22876	-0.262328714251028	
9	BETA-AMYRIN	Flower	--	--		
9	BETA-AMYRIN	Bud	--	--		
53	BETA-CAROTENE	Flower	--	4	-0.5606735845287268	
53	BETA-CAROTENE	Leaf	9	138	-0.5369565297726103	
2	BETA-CRYPTOXANTHIN	Plant	--	--		
47	BETA-SITOSTEROL	Flower	120	1200	-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	--	--		
4	BORON	Flower	1	76	1.2304541664359345	
4	BORON	Stem	--	21	-0.7419113414039952	
4	BORON	Leaf	1	85	0.6469238451071857	
3	CADMIUM	Flower	0.003	0.25		
3	CADMIUM	Leaf	0.01	0.18	-0.7863999904697607	
102	CAFFEIC-ACID	Leaf	--	8	-0.7148173591555008	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	CALCIUM	Leaf	360	54247	2.4468006382605774	
28	CALCIUM	Flower	210	4040	-0.4787571488570857	
2	CAMPESTEROL	Flower	30	300		Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
77	CHLOROGENIC-ACID	Leaf	--	--		
21	CHLOROPHYLL	Leaf	--	--		
24	CHROMIUM	Flower	0.001	0.125	-1.3473800790006203	
24	CHROMIUM	Leaf	0.005	0.18	-0.6314530785674829	
18	CINNAMIC-ACID	Leaf	--	--		
23	CITRIC-ACID	Flower	--	--		
23	CITRIC-ACID	Plant	--	--		
2	COBALT	Flower	0.001	0.125	-0.5425117041971756	
2	COBALT	Leaf	0.02	0.6	-0.29531921745391343	
12	COPPER	Leaf	0.68	52	0.6699011255650867	
12	COPPER	Flower	0.3	8	-0.9960623124329469	
2	CYSTINE	Leaf	200	2148	-0.6472110127615397	
2	CYSTINE	Flower	230	2970		
2	DIMETHYL-AMINE	Flower	--	14	1	
2	DIMETHYL-DISULFIDE	Plant	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
24	ETHANOL	Flower	--	--		
24	ETHANOL	Plant	--	--		
61	FERULIC-ACID	Leaf	--	13	0.08918222301645602	
15	FIBER	Flower	8000	132000	0.00499085884442514	
15	FIBER	Leaf	10760	122866	-0.47818554218157117	
15	FOLACIN	Leaf	0.64	8.4	-0.15226470429048047	
7	FUMARIC-ACID	Flower	--	--		
7	FUMARIC-ACID	Plant	--	--		
1	GLUCOBRASSICIN	Flower	60	1670		
1	GLUCOBRASSICIN	Leaf	30	580		
1	GLUCOIBERIN	Flower	--	1600		
1	GLUCOIBERIN	Leaf	--	248		
1	GLUCONASTURTIN	Flower	--	--		
1	GLUCONASTURTIN	Leaf	--	145		
1	GLUCORAPHANIN	Flower	--	990		
1	GLUCORAPHANIN	Leaf	255	8990		
8	GLUTAMIC-ACID	Flower	2650	34240		
8	GLUTAMIC-ACID	Leaf	3750	40275	0.12712766718145815	
12	GLYCINE	Leaf	950	10203	-0.05657990592554876	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
12	GLYCINE	Flower	640	8270		
1	HEXYL-ACETATE	Plant	--	--		
7	HISTIDINE	Flower	400	5165		
7	HISTIDINE	Leaf	500	5370	-0.0031655528062669996	
3	INDOLE-3-ACETONITRILE	Leaf	--	--		
32	INDOLE-3-CARBINOL	Leaf	--	--		
6	IRON	Flower	5	122	-0.3012855132197258	
6	IRON	Leaf	8	109	-0.6442917506016965	
3	ISOLEUCINE	Flower	760	9820		
3	ISOLEUCINE	Leaf	1090	11707	-0.09196747371544084	
75	KAEMPFEROL	Flower	--	30	-1.0760015465680726	
75	KAEMPFEROL	Leaf	--	--		
2	LEUCINE	Flower	1160	15000		
2	LEUCINE	Leaf	1310	14069	-0.3764770761728601	
27	LINOLEIC-ACID	Flower	190	2455	0.4542076634572454	
27	LINOLEIC-ACID	Leaf	380	4081	-0.6928297779549968	
4	LYSINE	Leaf	1410	15143	0.5181729835111131	
4	LYSINE	Flower	1070	13825		
65	MAGNESIUM	Flower	115	2250	-0.4063280335551449	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
65	MAGNESIUM	Leaf	214	3072	-0.406886321355332	
15	MALIC-ACID	Flower	--	--		
15	MALIC-ACID	Plant	--	--		
14	MANGANESE	Flower	1.5	48	-0.2230146829051698	
14	MANGANESE	Leaf	2	80	-0.32688920745367256	
1	MERCURY	Flower	--	0.025	-0.9374693023756843	
1	MERCURY	Leaf	0.002	0.09	1.1722789664445759	
2	METHANOL	Plant	--	--		
2	METHANOL	Flower	--	--		
15	METHIONINE	Flower	280	3615		
15	METHIONINE	Leaf	340	3652	0.46965125289987986	
1	METHYL-AMINE	Flower	--	65	1.0000000000000002	
2	MOLYBDENUM	Flower	--	0.1		
2	MOLYBDENUM	Leaf	0.1	3.76	0.6801012829363977	
2	MOLYBDENUM	Stem	--	1.76	-0.13934558811150258	
13	MUFA	Flower	120	1550	0.46291004988627577	
1	NEOGLUCOBRASSICIN	Flower	8	450		
1	NEOGLUCOBRASSICIN	Tissue Culture	--	--		
1	NEOGLUCOBRASSICIN	Leaf	10	900		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
39	NIACIN	Flower	5	85	-0.09352864336463278	
39	NIACIN	Leaf	--	--		
3	NICKEL	Leaf	0.3	7	-0.28467312579555515	
3	NICKEL	Flower	0.03	12	1	
18	OLEIC-ACID	Flower	120	1550	0.47798392866277417	
18	OLEIC-ACID	Leaf	240	2578	-0.3066324749217592	
9	OXALIC-ACID	Plant	--	68	-0.5351320075910592	
25	P-COUMARIC-ACID	Flower	--	35		
25	P-COUMARIC-ACID	Leaf	--	13	-0.3465642412720655	
13	P-HYDROXY-BENZOIC-ACID	Leaf	--	--		
13	PALMITIC-ACID	Leaf	470	5048	-0.2927982427753776	
13	PALMITIC-ACID	Flower	240	3100	0.13966281921675727	
11	PANTOTHENIC-ACID	Leaf	5.35	63	0.8524389937224381	
11	PANTOTHENIC-ACID	Flower	1.4	18	-1	
3	PHENETHYL-ISOTHIOCYANATE	Leaf	--	--		
3	PHENETHYLAMINE	Flower	--	1.8		
7	PHENYLALANINE	Flower	710	9175		
7	PHENYLALANINE	Leaf	840	9022	-0.32366072893862124	
4	PHOSPHORUS	Leaf	644	9090	0.7577587277969241	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	PHOSPHORUS	Flower	385	7375	1.5411143666705196	
9	PHYTIC-ACID	Leaf	--	--		
2	PHYTOSTEROLS	Plant	--	--		
2	PHYTOSTEROLS	Flower	180	1800		Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
14	POTASSIUM	Leaf	3178	37270	0.3058332790917791	
14	POTASSIUM	Flower	3300	49080	3.0578856743972493	
1	PROGOITRIN	Flower	--	60		
1	PROGOITRIN	Leaf	--	--		
4	PUFA	Flower	830	10725	1.333147880984072	
176	QUERCETIN	Flower	--	6	-1.4106513565908647	
176	QUERCETIN	Leaf	--	--		
44	QUERCITRIN	Leaf	--	--		
1	QUINIC-ACID	Flower	--	--		
1	QUINIC-ACID	Leaf	--	--		
15	RIBOFLAVIN	Flower	0.3	11	1.1243491725579133	
15	RIBOFLAVIN	Leaf	1.1	21	-0.07942432526480918	
87	RUTIN	Leaf	--	--		
34	SALICYLIC-ACID	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
60	SELENIUM	Stem	--	0.015	-0.42886426089167784	
60	SELENIUM	Flower	--	--		
60	SELENIUM	Leaf	--	0.024	-0.3807027917986485	
1	SERINE	Flower	1040	13440		
1	SERINE	Leaf	1000	10740	-0.003085924608790074	
4	SILICON	Flower	2	125	2.1795902118292325	
4	SILICON	Leaf	1	90	-0.14550202645318341	
9	SINAPIC-ACID	Leaf	--	40	-0.5050096614914733	
7	SINIGRIN	Flower	--	325		
7	SINIGRIN	Plant	--	--		
1	SODIUM	Flower	120	2300	0.7325478785988843	
1	SODIUM	Leaf	252	3091	-0.09830203577402047	
10	SQUALENE	Plant	--	--		
8	STEARIC-ACID	Leaf	70	752	-0.13186141525885503	
8	STEARIC-ACID	Flower	30	390	0.6447612226140537	
12	STIGMASTEROL	Flower	20	200		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	--	--		
7	SUCCINIC-ACID	Plant	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	SUCCINIC-ACID	Flower	--	--		
14	SULFUR	Leaf	1200	11800	1.6302603378370644	
31	THIAMIN	Flower	0.6	12	1.9586178131455851	
31	THIAMIN	Leaf	0.6	8	-0.06349209547044472	
4	THREONINE	Flower	720	9300		
4	THREONINE	Leaf	910	9773	-0.005488458413534491	
2	TRANS-FERULIC-ACID	Leaf	--	--		
29	TRYPTOPHAN	Leaf	290	3115	0.10979300838520059	
29	TRYPTOPHAN	Flower	260	3360		
8	TYROSINE	Leaf	630	6766	-0.34477094479123366	
8	TYROSINE	Flower	430	5555		
3	VALINE	Flower	1000	12920		
3	VALINE	Leaf	1280	13747	0.29552238675671566	
24	VANILLIC-ACID	Plant	--	--		
77	ZINC	Leaf	4	118	0.19739995136190341	
77	ZINC	Flower	3	97	3.0606347490514247	