

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in Beta vulgaris

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	ACONITIC-ACID	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	ADENINE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	ADIPIC-ACID	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	ALANINE	Root	560.0	4338.0	0.4412042274099843	USDA's Ag Handbook 8 and sequelae)
12	ALLANTOIN	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
15	ALPHA-LINOLENIC-ACID	Root	40.0	315.0	-0.6222019681781472	USDA's Ag Handbook 8 and sequelae)
15	ALPHA-LINOLENIC-ACID	Leaf	316.0	3160.0	-0.7100367130624211	--
32	ALPHA-TOCOPHEROL	Root	0.5	3.6	-1.1769646985527407	--
32	ALPHA-TOCOPHEROL	Leaf	321.0	439.0	0.35927304562664447	Jim Duke's personal files.*
5	ALUMINUM	Root	1.0	420.0	-0.08712633399832509	--
14	ARGININE	Root	380.0	2997.0	-0.3886990633481032	USDA's Ag Handbook 8 and sequelae)
2	ARSENIC	Root	0.01	0.08	-0.20408211266611795	ACTA AGRIC SCAND SUPPL 22: 1980
112	ASCORBIC-ACID	Root	50.0	868.0	-0.14978616745086681	--
112	ASCORBIC-ACID	Leaf	120.0	3696.0	-0.10097839366506348	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	ASPARTIC-ACID	Root	1060.0	8360.0	-0.20719379324946055	USDA's Ag Handbook 8 and sequelae)
53	BETA-CAROTENE	Root	0.0	438.0	2.3642545272136704	--
47	BETA-SITOSTEROL	Leaf		130.0	-1.0063608461922844	--

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47	BETA-SITOSTEROL	Root				Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
3	BETAGARIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
14	BETAINE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	BETALAMIC-ACID	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
5	BETANIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
5	BETANIN	Root				Stuppner, H., Egger, R. 1996. Application of Capillary Zone Electrophoresis to the Analysis of Betalains from Beta vulgaris. J. Chromatogr, 735: 409-413.
2	BETAVULGARIN	Leaf				--
4	BORON	Root	1.0	80.0	2.0686336024652223	--
3	CADMIUM	Root	0.01	0.33	-0.5322309593207406	ACTA AGRIC SCAND SUPPL 22: 1980
102	CAFFEIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
28	CALCIUM	Root	120.0	4200.0	-0.35076486765280085	--
28	CALCIUM	Leaf	700.0	17368.0	-0.0730545959775421	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

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2	CAMPESTEROL	Leaf				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				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
24	CHROMIUM	Root	0.001	0.33	-0.49416528207760696	ACTA AGRIC SCAND SUPPL 22: 1980
23	CITRIC-ACID	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	COBALT	Root	0.001	0.42	-0.5360925141125041	ACTA AGRIC SCAND SUPPL 22: 1980
2	CONIFERIN	Seed				--
2	CONIFERIN	Root				--
2	CONIFERIN	Plant				--
12	COPPER	Root	0.6	17.0	0.5844884448285068	--
2	CYSTINE	Root	180.0	1420.0	1.181476498312086	USDA's Ag Handbook 8 and sequelae)
17	FARNESOL	Essential Oil				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
17	FARNESOL	Root Essent. Oil				--
61	FERULIC-ACID	Leaf				--
15	FIBER	Root	8000.0	90000.0	0.04193139754777649	--
15	FIBER	Leaf	4000.0	279000.0	1.452590411305937	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FOLACIN	Root	0.8	8.0	1.879478715404913	USDA's Ag Handbook 8 and sequelae)
12	FORMALDEHYDE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

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22	GABA	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	GALACTOSE	Root				--
1	GALACTOSE	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	GLUCOSE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	GLUTAMIC-ACID	Root	3930.0	30994.0	1.3370135300475792	USDA's Ag Handbook 8 and sequelae)
12	GLYCINE	Root	290.0	2287.0	-0.3761711380939947	USDA's Ag Handbook 8 and sequelae)
1	GLYOXYLIC-ACID	Root				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
1	GUANINE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	HISTIDINE	Root	200.0	1577.0	-0.20948317136853128	USDA's Ag Handbook 8 and sequelae)
8	INOSINE	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
6	IRON	Root	5.0	165.0	-0.20194277471449604	--
6	IRON	Leaf	7.0	392.0	0.07303896870284142	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
1	ISOBETANIN	Root				Stuppner, H., Egger, R. 1996. Application of Capillary Zone Electrophoresis to the Analysis of Betalains from Beta vulgaris. J. Chromatogr, 735: 409-413.

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3	ISOLEUCINE	Root	440.0	3470.0	1.3896281933737457E-4	USDA's Ag Handbook 8 and sequelae)
75	KAEMPFEROL	Plant				--
1	L-AZETIDINE-2-CARBOXYLIC-ACID	Root				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
2	LEUCINE	Root	630.0	4968.0	0.3558822256981897	USDA's Ag Handbook 8 and sequelae)
27	LINOLEIC-ACID	Root	460.0	3628.0	0.18872562307250482	USDA's Ag Handbook 8 and sequelae)
11	LITHIUM	Root	0.36	0.6		--
4	LYSINE	Root	530.0	4180.0	0.4061670574806671	USDA's Ag Handbook 8 and sequelae)
65	MAGNESIUM	Root	130.0	4200.0	0.8718291096104009	--
1	MALONIC-ACID	Root				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
14	MANGANESE	Root	3.0	90.0	0.5288104069776015	--
1	MELILODIC-ACID	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	MERCURY	Root	0.0	0.016	-0.45460780356449726	ACTA AGRIC SCAND SUPPL 22: 1980
15	METHIONINE	Root	170.0	1341.0	0.4540719233816342	USDA's Ag Handbook 8 and sequelae)
2	MOLYBDENUM	Root		0.1	-0.46089530570591497	ACTA AGRIC SCAND SUPPL 22: 1980
13	MUFA	Root	270.0	2219.0	-0.042210550390970464	USDA's Ag Handbook 8 and sequelae)
39	NIACIN	Root	2.0	32.0	-0.5286048579830713	--
39	NIACIN	Leaf	4.0	68.0	-0.3588352402371107	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	NICKEL	Root	0.0	2.5	0.23545089462187527	--

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18	OLEIC-ACID	Root	270.0	2129.0	0.028613646599413095	USDA's Ag Handbook 8 and sequelae)
5	ORNITHINE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
9	OXALIC-ACID	Root		404.0	-0.40279401570173323	Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp.
25	P-COUMARIC-ACID	Plant				--
13	P-HYDROXY-BENZOIC-ACID	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
13	PALMITIC-ACID	Root	210.0	1656.0	-0.32320450211702656	USDA's Ag Handbook 8 and sequelae)
11	PANTOTHENIC-ACID	Root	1.5	11.8	-0.822025786396079	USDA's Ag Handbook 8 and sequelae)
7	PHENYLALANINE	Root	420.0	3312.0	0.37733807919126017	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Leaf	290.0	5946.0	0.17930367212570686	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Root	260.0	45580.0	7.390730333501335	--
2	PHYTOSTEROLS	Leaf		210.0	-0.7631206262135088	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	Root	250.0	1972.0	2.6750890076116427	USDA's Ag Handbook 8 and sequelae)
14	POTASSIUM	Root	3033.0	50000.0	2.5057949026475304	--
14	POTASSIUM	Leaf	4380.0	61798.0	1.3889349229084433	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PUFA	Root	500.0	3943.0	-0.48476339853379624	USDA's Ag Handbook 8 and sequelae)
176	QUERCETIN	Plant				--

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1	QUINIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	RAFFINOSE	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
15	RIBOFLAVIN	Root	0.2	3.9	-0.0381979129798729	--
15	RIBOFLAVIN	Leaf	1.7	26.0	-0.05598689717877004	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
7	SALICYLATES	Root	2.0	15.0	-0.6489446664726789	--
34	SALICYLIC-ACID	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	SAPONINS	Root		58000.0	0.10991363498738571	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
60	SELENIUM	Root		0.002	-0.3623106990048751	ACTA AGRIC SCAND SUPPL 22: 1980
1	SERINE	Root	540.0	4259.0	0.5044937361249509	USDA's Ag Handbook 8 and sequelae)
4	SILICON	Root	1.0	83.0	0.038371684428601074	ACTA AGRIC SCAND SUPPL 22: 1980
1	SODIUM	Root	590.0	6705.0	2.60917608632812	USDA's Ag Handbook 8 and sequelae)
1	SODIUM	Leaf	1300.0	16571.0	2.2958387060549112	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
8	STEARIC-ACID	Root	10.0	79.0	-0.6950094104911273	USDA's Ag Handbook 8 and sequelae)
14	SUCROSE	Root		270000.0	1.482333586643039	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	SULFUR	Root	130.0	2000.0	-0.21353007063213605	ACTA AGRIC SCAND SUPPL 22: 1980

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6	SYRINGIC-ACID	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	TARTARIC-ACID	Root				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
31	THIAMIN	Leaf	0.6	14.0	1.1869303740705777	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
31	THIAMIN	Root	0.1	2.4	-0.38024650234914276	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	THREONINE	Root	440.0	3470.0	-0.07145998210477424	USDA's Ag Handbook 8 and sequelae)
4	TIN	Root	0.8	2.8	-1.3911987269995683	--
29	TRYPTOPHAN	Root	170.0	1341.0	1.6215555191215911	USDA's Ag Handbook 8 and sequelae)
8	TYROSINE	Root	350.0	2760.0	1.213042723775461	USDA's Ag Handbook 8 and sequelae)
3	VALINE	Root	520.0	4100.0	0.016624403740957434	USDA's Ag Handbook 8 and sequelae)
24	VANILLIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
28	VANILLIN	Root				--
3	XYLOSE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
77	ZINC	Root	3.0	70.0	2.0068925301263634	--