

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Hordeum vulgare*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
112	ASCORBIC-ACID	Stem		3300.0	-0.07434961362635317	--
112	ASCORBIC-ACID	Seed		0.0	-0.33845664486186666	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
102	CAFFEIC-ACID	Fruit				--
102	CAFFEIC-ACID	Seed				--
77	CHLOROGENIC-ACID	Fruit				--
77	CHLOROGENIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
77	ZINC	Stem		21.0	-1.4164667554004475	--
77	ZINC	Sprout Seedling		20.0	-1.394755939064127	Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.
77	ZINC	Seed	20.0	30.0	-0.42960193727303775	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
65	MAGNESIUM	Stem		2250.0	-1.0594120332843735	--
65	MAGNESIUM	Sprout Seedling		1670.0	-0.5837462312888009	Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.
65	MAGNESIUM	Seed	100.0	2300.0	-0.25527141304000667	Jim Duke's personal files.*
61	FERULIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
60	SELENIUM	Stem		24.0	2.7096345976838996	--
57	COUMARIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
53	BETA-CAROTENE	Stem		312.0	1.4040090844278104	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
53	BETA-CAROTENE	Seed	0.0	1.0	-0.36679931650710623	Jim Duke's personal files.*
53	BETA-CAROTENE	Plant	149.0	660.0	2.8473075887780093	Jim Duke's personal files.*
47	BETA-SITOSTEROL	Sprout Seedling		980.0	1.3218930544492802	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				--
47	BETA-SITOSTEROL	Embryo				--
44	SCOPOLETIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
44	SCOPOLETIN	Protoplast				--
43	CATECHIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
43	PYRIDOXINE	Seed	0.0	11.0	1.2007481038374281	Jim Duke's personal files.*
39	NIACIN	Stem				--
39	NIACIN	Seed	17.0	115.0	2.1586670632815284	Jim Duke's personal files.*
34	SALICYLIC-ACID	Shoot		1.0		--
33	AESCULIN	Protoplast				--
32	AESCULETIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
32	ALPHA-TOCOPHEROL	Leaf				--
32	ALPHA-TOCOPHEROL	Tissue Culture				--
32	ALPHA-TOCOPHEROL	Root				--
32	ALPHA-TOCOPHEROL	Sprout Seedling				--
32	ALPHA-TOCOPHEROL	Seed	3.0	11.0	-0.6960177480084532	Jim Duke's personal files.*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
32	AESCULETIN	Protoplast				--
31	THIAMIN	Seed	1.0	10.0	0.8149652509512033	--
31	THIAMIN	Stem		13.0	0.99861782933251	--
30	ESCULETIN	Plant				--
30	(+)-CATECHIN	Seed				--
29	TRYPTOPHAN	Sprout Seedling				--
29	ESCULIN	Plant				--
29	TRYPTOPHAN	Seed	1000.0	3000.0	-0.1108675145369685	Jim Duke's personal files.*
28	CALCIUM	Seed	160.0	4100.0	-0.008525145677961804	Jim Duke's personal files.*
28	CALCIUM	Plant	800.0	10400.0	-0.34115856607431033	Jim Duke's personal files.*
28	CALCIUM	Stem		11000.0	-0.8397648224115174	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
28	CALCIUM	Sprout Seedling		720.0	-0.580774133760098	Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.
27	LINOLEIC-ACID	Leaf				--
27	LINOLEIC-ACID	Seed	2185.0	24035.0	-0.7118993494812657	Jim Duke's personal files.*
25	P-COUMARIC-ACID	Fruit				--
25	P-COUMARIC-ACID	Seed				--
24	VITAMIN-B-1	Seed		4.47	-0.9999999999999994	--
24	CHROMIUM	Stem		31.0	3.464002072370349	--
24	VANILLIC-ACID	Fruit				--
23	MELATONIN	Seed				Hattori, A., et. al. 1995. Identification of Melatonin in Plants and its Effects on Plasma Melatonin Levels and Binding to Melatonin Receptors in Vertebrates. Biochem. Mol. Biol. Int., 35(3): 627-634.
23	FOLIC-ACID	Seed	0.0	1.5	-0.35317919194008696	Jim Duke's personal files.*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
22	UMBELLIFERONE	Sprout Seedling				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
22	UMBELLIFERONE	Fruit				--
20	CHOLINE	Seed	928.0	1617.0	-0.0521139565220809	--
18	OLEIC-ACID	Leaf				--
18	OLEIC-ACID	Seed	1325.0	14575.0	-0.8592851537559419	Jim Duke's personal files.*
18	MANNITOL	Root				--
15	FIBER	Seed	5000.0	151000.0	0.12808518644382472	Jim Duke's personal files.*
15	FIBER	Plant	128000.0	446000.0	1.6501518476432595	Jim Duke's personal files.*
15	RIBOFLAVIN	Stem	27.0	28.0	1.3933794062595939	--
15	RIBOFLAVIN	Seed	1.0	9.0	2.0986168328969494	Jim Duke's personal files.*
15	LUTEIN	Sprout Seedling				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
15	METHIONINE	Seed	1000.0	4000.0	-0.0812868777702854	Jim Duke's personal files.*
15	TRIGONELLINE	Seed		9.0	-0.4668864790645237	--
15	FOLACIN	Seed	0.0	1.48	-0.46327972185260347	--
15	FIBER	Stem		134000.0	-0.6321812822436766	--
14	MANGANESE	Seed	2.0	120.0	0.8281082278982284	--
14	POTASSIUM	Plant	19880.0	44000.0	1.5484017600425304	Jim Duke's personal files.*
14	SULFUR	Seed		200.0	-1.3206589077323676	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
14	BETAINE	Shoot		1.8	-0.5768792410175753	--
14	BETAINE	Root		234.0	-0.34965983970112485	--
14	POTASSIUM	Stem		25000.0	1.0285125288902355	--
14	MANGANESE	Stem		60.0	-1.1875470930251946	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	POTASSIUM	Sprout Seedling		6130.0	-1.621510089564705	Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.
14	MANGANESE	Sprout Seedling		26.0	0.8429272304235246	Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.
14	POTASSIUM	Seed	1600.0	9900.0	-0.2348139824528988	--
13	PALMITIC-ACID	Leaf				--
13	LIGNIN	Plant	15000.0	77000.0	-1.044805693940176	Jim Duke's personal files.*
13	PALMITIC-ACID	Seed	370.0	4070.0	-0.6156237435519392	Jim Duke's personal files.*
13	P-HYDROXY-BENZOIC-ACID	Seed				Jim Duke's personal files.
12	COPPER	Seed	1.0	20.0	0.4703525387576021	Jim Duke's personal files.*
12	STIGMASTEROL	Sprout Seedling		1010.0	1.1166454979463096	--
12	STIGMASTEROL	Plant				--
12	HERNIARIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
12	STIGMASTEROL	Embryo				--
12	COPPER	Sprout Seedling		8.0	-0.99861782933251	Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.
11	TYRAMINE	Sprout Seedling		26.0		--
11	PANTOTHENIC-ACID	Seed	2.0	12.0	-0.4968077273222071	Jim Duke's personal files.*
10	PIPERIDINE	Seed		1.0		--
9	TRICIN	Shoot				--
9	SINAPIC-ACID	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	PHYTIC-ACID	Seed	5600.0	11500.0	-0.4716099018081439	--
8	UBIQUINONE	Sprout Seedling				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	TYROSINE	Seed	2000.0	6000.0	-0.4033504117135999	Jim Duke's personal files.*
8	HORDENINE	Sprout Seedling		63.0		--
8	STEARIC-ACID	Seed	130.0	1430.0	-0.534363896122953	Jim Duke's personal files.*
8	GLUTAMIC-ACID	Seed	32000.0	38000.0	-0.15666375176263259	Jim Duke's personal files.*
8	STEARIC-ACID	Leaf				--
8	FRUCTOSE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	HORDENINE	Root				--
7	SALICYLATES	Seed		0.0	-0.3401776874861938	--
7	GLUCOSE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	IRON	Stem		160.0	-0.5446816797924848	--
6	SYRINGIC-ACID	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	IRON	Sprout Seedling		100.0	-0.4462591736837504	Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.
6	IRON	Seed	40.0	100.0	-0.2360003199095645	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	ALUMINUM	Stem		212.0	-0.7859500634899037	--
5	GRAMINE	Sprout Seedling				--

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5	GRAMINE	Protoplast				--
5	PHYLLOQUINONE	Seed		0.07	-0.4540766091865	--
5	ALUMINUM	Seed		7.0	-0.35199825506698773	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	GRAMINE	Root				--
5	STARCH	Seed		620000.0	1.2546712758706633	--
5	GRAMINE	Leaf				--
5	GRAMINE	Shoot				--
4	ORIENTIN	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
4	PHOSPHORUS	Stem		5950.0	2.566643749048099	--
4	DICENTRINE	Root				--
4	BORON	Seed	2.0	6.0	-0.8591148525952217	Betting on Boron, Unpublished draft by J. A. Duke on file at USDA, draft and papers relating to boron percentages. Includes Internat. Z. Vit. Ern. Forschung 43:1973 (boron).
4	PHOSPHORUS	Seed	1890.0	9200.0	1.0165110377918627	Jim Duke's personal files.*
4	BIOTIN	Seed	0.1	0.9	-0.5283838545861084	Jim Duke's personal files.*
4	PHOSPHORUS	Plant	2300.0	6900.0	1.5912232536803737	Jim Duke's personal files.*
4	CANDICINE	Sprout Seedling				--
4	TIN	Stem		12.0	0.7071067811865475	--
4	ISOVITEXIN	Leaf				--
4	SILICON	Stem		34.0	-0.8566927096630965	--
4	ISOORIENTIN	Leaf				--
4	TRYPTAMINE	Sprout Seedling				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	HORDATINE-B	Sprout Seedling				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
3	ALPHA-ALLOCRYPTOPINE	Root				--
3	HORDATINE-A	Sprout Seedling				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
3	HETERODENDRIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
3	VALINE	Seed	6000.0	9000.0	-0.3709002053950128	Jim Duke's personal files.*
2	CAMPESTEROL	Sprout Seedling		330.0	1.0	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
2	MALTOSE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	COBALT	Stem		49.0	1.4481845216144724	--
2	CITRININ	Seed				--
2	NEOXANTHIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	ARSENIC	Sprout Seedling		0.01		Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.



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2	PHYTOSTEROLS	Sprout Seedling		2340.0	1.4787221837231173	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
2	DIMETHYL-AMINE	Seed		1.6	-1.0309167098137846	--
2	DIETHYL-AMINE	Seed		5.7		--
2	PALMITOLEIC-ACID	Leaf				--
2	PROCYANIDIN-B-3	Seed				--
2	CYSTINE	Seed	1000.0	2000.0	-0.8000073846519989	Jim Duke's personal files.*
2	TRANS-FERULIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
2	VIOLAXANTHIN	Sprout Seedling				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	GLUTEN	Seed				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
1	SPERMINE	Seed				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
1	N-METHYL-TYRAMINE	Root				--
1	N-METHYL-TYRAMINE	Sprout Seedling		48.0		--
1	RAFFINOSE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	METHYL-AMINE	Seed		4.5	-1.220234067772545	--
1	GIBBERELLIN	Seed				--
1	PYRROLIDINE	Seed		0.9		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	MALONIC-ACID	Seed				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
1	CELLULOSE	Plant	190000.0	322000.0	0.14010383620503333	Jim Duke's personal files.*
1	SODIUM	Stem		2240.0	2.208894010961217	--
1	MERCURY	Sprout Seedling		0.07		Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.
1	SODIUM	Sprout Seedling		256.0	-1.0708880985082736	Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.
1	(+)-GLAUCINE	Root				--
1	LEUCOCYANIDIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	CALMODULIN	Shoot				--
1	CALMODULIN	Cotyledon				--
1	N-METHYL-TYRAMINE	Fruit				--
1	ACONITIC-ACID	Root				--
1	SERINE	Seed		5000.0	-1.0683188967669957	Jim Duke's personal files.*