

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Hordeum vulgare*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	STARCH	Seed		620000.0	1.2546712758706633	--
15	FIBER	Plant	128000.0	446000.0	1.6501518476432595	Jim Duke's personal files.*
1	CELLULOSE	Plant	190000.0	322000.0	0.14010383620503333	Jim Duke's personal files.*
15	FIBER	Seed	5000.0	151000.0	0.12808518644382472	Jim Duke's personal files.*
15	FIBER	Stem		134000.0	-0.6321812822436766	--
13	LIGNIN	Plant	15000.0	77000.0	-1.044805693940176	Jim Duke's personal files.*
14	POTASSIUM	Plant	19880.0	44000.0	1.5484017600425304	Jim Duke's personal files.*
8	GLUTAMIC-ACID	Seed	32000.0	38000.0	-0.15666375176263259	Jim Duke's personal files.*
14	POTASSIUM	Stem		25000.0	1.0285125288902355	--
27	LINOLEIC-ACID	Seed	2185.0	24035.0	-0.7118993494812657	Jim Duke's personal files.*
18	OLEIC-ACID	Seed	1325.0	14575.0	-0.8592851537559419	Jim Duke's personal files.*
9	PHYTIC-ACID	Seed	5600.0	11500.0	-0.4716099018081439	--
28	CALCIUM	Stem		11000.0	-0.8397648224115174	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
28	CALCIUM	Plant	800.0	10400.0	-0.34115856607431033	Jim Duke's personal files.*
14	POTASSIUM	Seed	1600.0	9900.0	-0.2348139824528988	--
4	PHOSPHORUS	Seed	1890.0	9200.0	1.0165110377918627	Jim Duke's personal files.*
3	VALINE	Seed	6000.0	9000.0	-0.3709002053950128	Jim Duke's personal files.*
4	PHOSPHORUS	Plant	2300.0	6900.0	1.5912232536803737	Jim Duke's personal files.*
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.
8	TYROSINE	Seed	2000.0	6000.0	-0.4033504117135999	Jim Duke's personal files.*
4	PHOSPHORUS	Stem		5950.0	2.566643749048099	--
1	SERINE	Seed		5000.0	-1.0683188967669957	Jim Duke's personal files.*
28	CALCIUM	Seed	160.0	4100.0	-0.008525145677961804	Jim Duke's personal files.*
13	PALMITIC-ACID	Seed	370.0	4070.0	-0.6156237435519392	Jim Duke's personal files.*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	METHIONINE	Seed	1000.0	4000.0	-0.0812868777702854	Jim Duke's personal files.*
112	ASCORBIC-ACID	Stem		3300.0	-0.07434961362635317	--
29	TRYPTOPHAN	Seed	1000.0	3000.0	-0.1108675145369685	Jim Duke's personal files.*
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.)
65	MAGNESIUM	Seed	100.0	2300.0	-0.25527141304000667	Jim Duke's personal files.*
65	MAGNESIUM	Stem		2250.0	-1.0594120332843735	--
1	SODIUM	Stem		2240.0	2.208894010961217	--
2	CYSTINE	Seed	1000.0	2000.0	-0.8000073846519989	Jim Duke's personal files.*
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.
20	CHOLINE	Seed	928.0	1617.0	-0.0521139565220809	--
8	STEARIC-ACID	Seed	130.0	1430.0	-0.534363896122953	Jim Duke's personal files.*
12	STIGMASTEROL	Sprout Seedling		1010.0	1.1166454979463096	--
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.)
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.
53	BETA-CAROTENE	Plant	149.0	660.0	2.8473075887780093	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.)
53	BETA-CAROTENE	Stem		312.0	1.4040090844278104	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
14	BETAINE	Root		234.0	-0.34965983970112485	--
5	ALUMINUM	Stem		212.0	-0.7859500634899037	--
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.
6	IRON	Stem		160.0	-0.5446816797924848	--
14	MANGANESE	Seed	2.0	120.0	0.8281082278982284	--
39	NIACIN	Seed	17.0	115.0	2.1586670632815284	Jim Duke's personal files.*
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.
8	HORDENINE	Sprout Seedling		63.0		--
14	MANGANESE	Stem		60.0	-1.1875470930251946	--
2	COBALT	Stem		49.0	1.4481845216144724	--
1	N-METHYL-TYRAMINE	Sprout Seedling		48.0		--
4	SILICON	Stem		34.0	-0.8566927096630965	--
24	CHROMIUM	Stem		31.0	3.464002072370349	--
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.
15	RIBOFLAVIN	Stem	27.0	28.0	1.3933794062595939	--
11	TYRAMINE	Sprout Seedling		26.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
60	SELENIUM	Stem		24.0	2.7096345976838996	--
77	ZINC	Stem		21.0	-1.4164667554004475	--
12	COPPER	Seed	1.0	20.0	0.4703525387576021	Jim Duke's personal files.*
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.
31	THIAMIN	Stem		13.0	0.99861782933251	--
11	PANTOTHENIC-ACID	Seed	2.0	12.0	-0.4968077273222071	Jim Duke's personal files.*
4	TIN	Stem		12.0	0.7071067811865475	--
32	ALPHA-TOCOPHEROL	Seed	3.0	11.0	-0.6960177480084532	Jim Duke's personal files.*
43	PYRIDOXINE	Seed	0.0	11.0	1.2007481038374281	Jim Duke's personal files.*
31	THIAMIN	Seed	1.0	10.0	0.8149652509512033	--
15	RIBOFLAVIN	Seed	1.0	9.0	2.0986168328969494	Jim Duke's personal files.*
15	TRIGONELLINE	Seed		9.0	-0.4668864790645237	--
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.
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.
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).
2	DIETHYL-AMINE	Seed		5.7		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	METHYL-AMINE	Seed		4.5	-1.2202340677772545	--
24	VITAMIN-B-1	Seed		4.47	-0.9999999999999994	--
14	BETAINE	Shoot		1.8	-0.5768792410175753	--
2	DIMETHYL-AMINE	Seed		1.6	-1.0309167098137846	--
23	FOLIC-ACID	Seed	0.0	1.5	-0.35317919194008696	Jim Duke's personal files.*
15	FOLACIN	Seed	0.0	1.48	-0.46327972185260347	--
10	PIPERIDINE	Seed		1.0		--
34	SALICYLIC-ACID	Shoot		1.0		--
53	BETA-CAROTENE	Seed	0.0	1.0	-0.36679931650710623	Jim Duke's personal files.*
4	BIOTIN	Seed	0.1	0.9	-0.5283838545861084	Jim Duke's personal files.*
1	PYRROLIDINE	Seed		0.9		--
5	PHYLLOQUINONE	Seed		0.07	-0.4540766091865	--
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.
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.
112	ASCORBIC-ACID	Seed		0.0	-0.33845664486186666	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
7	SALICYLATES	Seed		0.0	-0.3401776874861938	--
13	PALMITIC-ACID	Leaf				--
4	ORIENTIN	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
25	P-COUMARIC-ACID	Fruit				--
39	NIACIN	Stem				--
22	UMBELLIFERONE	Sprout Seedling				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
2	MALTOSE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
18	OLEIC-ACID	Leaf				--
6	SYRINGIC-ACID	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
22	UMBELLIFERONE	Fruit				--
77	CHLOROGENIC-ACID	Fruit				--
44	SCOPOLETIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.
8	UBIQUINONE	Sprout Seedling				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.
2	CITRININ	Seed				--
1	N-METHYL-TYRAMINE	Root				--
102	CAFFEIC-ACID	Fruit				--
102	CAFFEIC-ACID	Seed				--
2	NEOXANTHIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

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61	FERULIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
32	AESCULETIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
27	LINOLEIC-ACID	Leaf				--
12	STIGMASTEROL	Plant				--
29	TRYPTOPHAN	Sprout Seedling				--
4	DICENTRINE	Root				--
29	ESCULIN	Plant				--
5	GRAMINE	Sprout Seedling				--
5	GRAMINE	Protoplast				--
32	ALPHA-TOCOPHEROL	Leaf				--
43	CATECHIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	RAFFINOSE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
12	HERNIARIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
32	ALPHA-TOCOPHEROL	Tissue Culture				--
30	ESCULETIN	Plant				--
1	GIBBERELLIN	Seed				--
15	LUTEIN	Sprout Seedling				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	GRAMINE	Root				--

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77	CHLOROGENIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
32	ALPHA-TOCOPHEROL	Root				--
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.
5	GRAMINE	Leaf				--
32	ALPHA-TOCOPHEROL	Sprout Seedling				--
33	AESCULIN	Protoplast				--
5	GRAMINE	Shoot				--
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.
8	STEARIC-ACID	Leaf				--
9	TRICIN	Shoot				--
3	ALPHA-ALLOCRYPTOPINE	Root				--
2	PALMITOLEIC-ACID	Leaf				--
32	AESCULETIN	Protoplast				--
30	(+)-CATECHIN	Seed				--
4	CANDICINE	Sprout Seedling				--
2	PROCYANIDIN-B-3	Seed				--
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.



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7	GLUCOSE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
47	BETA-SITOSTEROL	Plant				--
18	MANNITOL	Root				--
2	TRANS-FERULIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
1	(+)-GLAUCINE	Root				--
12	STIGMASTEROL	Embryo				--
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				--
9	SINAPIC-ACID	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.
8	FRUCTOSE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	VIOLAXANTHIN	Sprout Seedling				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
44	SCOPOLETIN	Protoplast				--
57	COUMARIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

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13	P-HYDROXY-BENZOIC-ACID	Seed				Jim Duke's personal files.
1	N-METHYL-TYRAMINE	Fruit				--
4	ISOVITEXIN	Leaf				--
47	BETA-SITOSTEROL	Embryo				--
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.
24	VANILLIC-ACID	Fruit				--
25	P-COUMARIC-ACID	Seed				--
8	HORDENINE	Root				--
4	ISOORIENTIN	Leaf				--
1	ACONITIC-ACID	Root				--
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.