

**Dr. Duke's Phytochemical and Ethnobotanical Database**

**List of Plants for LYSINE**

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Abelmoschus esculentus	Fruit	810	8100	1.0322270292855846	USDA's Ag Handbook 8 and sequelae)
Acacia farnesiana	Leaf	3760	20170	1.6628021945345992	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Acacia farnesiana	Seed	1750	1800	-1.3950017923225162	Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
Achillea millefolium	Plant	--	--		Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in Achillea millefolium L. (Asteraceae). Economic Botany 48(2): 111-120, 1994.
Albizia lebbek	Seed	--	--		Wealth of India.
Allium ampeloprasum	Plant	--	--		--
Allium cepa	Bulb	560	6104	-1	USDA's Ag Handbook 8 and sequelae)
Allium sativum var. sativum	Bulb	10	6552	1	--
Allium sativum var. sativum	Leaf	--	--		--
Allium schoenoprasum	Leaf	1630	17435	1.0400528624977512	USDA's Ag Handbook 8 and sequelae)
Aloe vera	Leaf	7748	7748	-1.1656410239523205	--
Alpinia galanga	Leaf	--	--		--
Amaranthus sp.	Leaf	1270	15278	0.5489119816189648	--
Anacardium occidentale	Seed	8170	8311	-0.5130521224284408	--
Ananas comosus	Fruit	46	1852	-0.5859651529954232	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Anethum graveolens	Fruit	10380	11242	1.8459850057143503	--
Anethum graveolens	Seed	10380	11242	-0.11603254287698407	USDA's Ag Handbook 8 and sequelae)
Angelica sinensis	Root	--	--		Jim Duke's personal files.
Annona muricata	Fruit	600	3180	-0.24202161617257129	--
Annona reticulata	Fruit	370	1300	-0.7289296351687773	--
Annona squamosa	Fruit	550	2055	-0.533389446688918	--
Apium graveolens	Pt	260	5410		USDA's Ag Handbook 8 and sequelae)
Arachis hypogaea	Seed	9390	10627	-0.19933757236321603	--
Arctium lappa	Root	670	3350	-0.3553603353392198	USDA's Ag Handbook 8 and sequelae)
Artemisia dracunculus	Shoot	--	--		--
Artemisia dracunculus	Root	--	--		--
Artemisia dracunculus	Leaf	--	--		--
Artocarpus altilis	Fruit	370	1258	-0.7398073675080542	--
Artocarpus altilis	Seed	5700	13035	0.12683886829181903	USDA's Ag Handbook 8 and sequelae)
Asimina triloba	Fruit	339	3831	-0.07341676491377869	--
Asparagus officinalis	Shoot	1450	18710	0.3111156963571142	--
Avena sativa	Plant	14000	14000	0.48205927294439394	Jim Duke's personal files.*
Avena sativa	Seed	2000	7000	-0.6906340633332377	Jim Duke's personal files.*
Averrhoa carambola	Fruit	400	4400	0.0739506089207113	USDA's Ag Handbook 8 and sequelae)

Plant	Part	Low PPM	High PPM	StdDev	Reference
Basella alba	Leaf	860	12465	-0.09159766043575311	--
Benincasa hispida	Fruit	90	2305	-0.46864103990750755	--
Bertholletia excelsa	Seed	5410	5597	-0.880677894827845	USDA's Ag Handbook 8 and sequelae)
Beta vulgaris	Root	530	4180	0.4061670574806671	USDA's Ag Handbook 8 and sequelae)
Bixa orellana	Seed	10130	14250	0.29141709727681386	--
Brassica chinensis	Leaf	890	19019	1.4007237736298783	--
Brassica napus var. napobrassica	Root	390	3770	0.029990875485301268	USDA's Ag Handbook 8 and sequelae)
Brassica nigra	Leaf	1130	16642	0.8594897106494074	USDA's Ag Handbook 8 and sequelae)
Brassica oleracea	Stem	560	6222		--
Brassica oleracea var. botrytis l.	Leaf	1410	15143	0.5181729835111131	--
Brassica oleracea var. botrytis l.	Flower	1070	13825		--
Brassica oleracea var. capitata l.	Leaf	570	7621	-1.1945584518019292	USDA's Ag Handbook 8 and sequelae)
Brassica oleracea var. gemmifera	Leaf	1540	10996	-0.426083499105636	USDA's Ag Handbook 8 and sequelae)
Brassica oleracea var. italica	Leaf	1410	15143	0.5181729835111131	USDA's Ag Handbook 8 and sequelae)
Brassica oleracea var. sabellica l.	Leaf	1970	12675	-0.04378144115687264	--
Brassica oleracea var. viridis l.	Leaf	750	12293	-0.13076142098797902	--
Brassica rapa	Root	360	4425	0.630955263794971	--
Brassica rapa	Leaf	890	19019	1.4007237736298783	USDA's Ag Handbook 8 and sequelae)
Cajanus cajan	Seed	13750	17010	0.6652738149711231	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Calathea allouia	Root	3810	4190	0.41534208630982233	--
Camellia sinensis	Leaf	--	--		--
Capsicum annuum	Fruit	380	5183	0.27674261896008856	USDA's Ag Handbook 8 and sequelae)
Capsicum frutescens	Fruit	890	7262	0.8151903697542972	USDA's Ag Handbook 8 and sequelae)
Carica papaya	Fruit	250	2238	-0.48599361292492554	USDA's Ag Handbook 8 and sequelae)
Carum carvi	Seed	10310	11445	-0.08853511037990262	Revised USDA data received 1993.
Castanea dentata	Seed	2687	4784	-0.9908030801486687	--
Castanea mollissima	Seed	2313	4116	-1.0812872422572914	--
Castanea sativa	Seed	1189	2617	-1.2843347856717007	--
Ceratonia siliqua	Seed	26320	26320	1.926362960526928	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Chenopodium album	Seed	3540	22550	1.4156963570097005	--
Cicer arietinum	Seed	12910	14595	0.3381491869886026	USDA's Ag Handbook 8 and sequelae)
Cichorium endivia	Leaf	630	10145	-0.619853035326242	--
Cichorium intybus	Leaf	350	7956	-1.1182801972380008	USDA's Ag Handbook 8 and sequelae)
Citrullus lanatus	Fruit	7303	7303	0.8258091084664485	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Citrullus lanatus	Seed	8932	8932	-0.4289343609472212	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Citrus aurantiifolia	Fruit	140	1190	-0.7574189341525978	USDA's Ag Handbook 8 and sequelae)
Citrus paradisi	Fruit	160	1760	-0.6097925666909821	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Citrus reticulata	Fruit	40	2579	-0.3976767860750818	--
Citrus sinensis	Fruit	470	3548	-0.1467119613903352	USDA's Ag Handbook 8 and sequelae)
Cnidioscolus chayamansa	Leaf	3040	15190	0.528874708778291	--
Cocos nucifera	Endosperm	--	--		Jim Duke's personal files.
Cocos nucifera	Leaf	--	--		Jim Duke's personal files.
Cocos nucifera	Seed	1470	2775	-1.2629328431370264	USDA's Ag Handbook 8 and sequelae)
Colocasia esculenta	Leaf	2460	17155	0.9762979034592439	--
Colocasia esculenta	Root	670	2280	-1.337088420058833	--
Corchorus olitorius	Leaf	1540	17825	1.1288544125871007	--
Coriandrum sativum	Fruit	--	--		--
Coriandrum sativum	Leaf	--	--		--
Crocus sativus	Bulb	--	--		--
Cryptotaenia japonica	Root	--	--		--
Cucumis sativus	Fruit	220	5570	0.3769731526577118	--
Cucurbita foetidissima	Seed	10130	33000	2.8312045816131546	--
Cucurbita pepo	Fruit	470	6429	0.5994486783586378	--
Cucurbita pepo	Seed	15580	19693	1.221995231537649	--
Cucurbita spp	Fruit	650	10285	1.5981281045551112	--
Daucus carota	Root	400	3275	-0.4241730515578843	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Dioscorea pentaphylla	Root	520	2800	-0.8599869209427593	--
Eryngium creticus	Shoot	3980	3980	-1.3502985177843803	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
Fagopyrum esculentum	Seed	7110	7110	-0.6757339767584645	--
Ficus carica	Fruit	300	1436	-0.69370650187969	USDA's Ag Handbook 8 and sequelae)
Fragaria spp	Fruit	250	2966	-0.29744625237745853	USDA's Ag Handbook 8 and sequelae)
Ginkgo biloba	Seed	2060	4594	-0.8748533155304336	USDA's Ag Handbook 8 and sequelae)
Glycine max	Seed	24290	26560	1.9588722403264331	USDA's Ag Handbook 8 and sequelae)
Glycine max	Shoot	--	--		--
Harpagophytum procumbens	Root	--	--		--
Helianthus annuus	Seed	9370	9900	-0.29781359908921706	--
Helianthus tuberosus	Tuber	4288	4288	-0.812095239335622	Izadoost, M. & Robinson, T., Synergism & antagonism in the pharmacology of alkaloidal plants, pp 137-58 in Craker, L. & Simon, J., eds., Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture & Pharmacology, v. 2, 1987, 255pp.
Humulus lupulus	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Hypericum perforatum	Plant	--	--		--
Ipomoea batatas	Root	810	3280	-0.41958553714330665	--
Juglans cinerea	Seed	7700	7966	-0.5597842121402294	--
Juglans nigra	Seed	7210	7540	-0.6174881837843511	USDA's Ag Handbook 8 and sequelae)

Plant	Part	Low PPM	High PPM	StdDev	Reference
Juglans regia	Seed	3880	4025	-1.0936136775146037	USDA's Ag Handbook 8 and sequelae)
Lablab purpureus	Seed	190	18000	0.799374594144082	--
Lactuca sativa	Leaf	840	14000	0.25791613286463505	--
Lagenaria siceraria	Fruit	210	4700	0.15164869705840375	--
Lens culinaris	Seed	19570	22035	1.3459368607732625	USDA's Ag Handbook 8 and sequelae)
Lens culinaris	Sprout Seedling	7120	23735	0.4097902073122836	USDA's Ag Handbook 8 and sequelae)
Lentinus edodes	Fruit	--	--		--
Lepidium meyenii	Root	--	5450	1.5713957187833856	Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
Linum usitatissimum	Plant	--	0.209	-1.2551253944019245	--
Linum usitatissimum	Seed	--	2.5	-1.63848275248756	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Lupinus albus	Seed	19330	21585	1.2849819611491902	--
Lycopersicon esculentum	Fruit	20	5455	0.34718888553826305	--
Macadamia spp	Seed	3240	3330	-1.1877551336006706	USDA's Ag Handbook 8 and sequelae)
Malus domestica	Fruit	20	746	-0.8724121045963826	--
Mangifera indica	Fruit	410	3200	-0.23684174363005844	--
Manihot esculenta	Root	1000	3175	-0.515923339849437	--
Medicago sativa	Plant	--	--		--
Melia azedarach	Seed	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Melicoccus bijugatas	Fruit	170	545	-0.9244698236486365	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
Mentha spicata	Leaf	1410	9760	-0.7075161040041896	--
Mentha x piperita	Leaf	1610	7540	-1.2130018506666402	USDA's Ag Handbook 8 and sequelae)
Momordica charantia	Seed	--	149	-1.618638546276612	Jim Duke's personal files.
Moringa oleifera	Shoot	5370	25165	1.0391828214272667	USDA's Ag Handbook 8 and sequelae)
Mucuna pruriens	Seed	9700	20564	1.1466820666687954	--
Murraya sp	Fruit	600	1728	-0.6180803627590027	--
Musa x paradisiaca	Fruit	600	1728	-0.6180803627590027	USDA's Ag Handbook 8 and sequelae)
Nasturtium officinale	Herb	1340	26800	1	USDA's Ag Handbook 8 and sequelae)
Nelumbo nucifera	Rhizome	940	4500	1	--
Nelumbo nucifera	Seed	2640	8000	-0.5551787308352996	--
Nigella sativa	Seed	16200	20700	1.1651039918885149	--
Ocimum basilicum	Leaf	6180	6180	-1.5226687945679613	USDA's Ag Handbook 8 and sequelae)
Oenothera biennis	Seed	3100	3842	-1.1184020033617263	--
Opuntia ficus-indica	Bud	6005	6005		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
Opuntia ficus-indica	Seed	6275	6275	-0.7888391793942429	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
Oryza sativa	Hay	--	--		--
Pachyrhizus erosus	Tuber	510	4700	-0.705310514654771	--



Plant	Part	Low PPM	High PPM	StdDev	Reference
Panax ginseng	Leaf	--	--		--
Panax ginseng	Root	--	--		--
Panax quinquefolius	Plant	2080	2100	-0.994569738261644	--
Papaver bracteatum	Seed	7200	8150	-0.5348604309606089	--
Papaver somniferum	Seed	10990	11789	-0.0419384760006119	--
Perideridia gairdneri	Root	2984	2984	-0.6911663904863025	Izadoost, M. & Robinson, T., Synergism & antagonism in the pharmacology of alkaloidal plants, pp 137-58 in Craker, L. & Simon, J., eds., Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture & Pharmacology, v. 2, 1987, 255pp.
Persea americana	Fruit	750	3653	-0.11951763054214287	J. Ethnobiology.
Petroselinum crispum	Plant	2190	18724	1.068243764451732	USDA's Ag Handbook 8 and sequelae)
Phaseolus acutifolius	Seed	17800	19400	0.9890120596411954	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
Phaseolus lunatus	Seed	4520	19010	0.9361844799669995	--
Phaseolus vulgaris	Fruit	880	9044	1.2767170132921903	USDA's Ag Handbook 8 and sequelae)
Phaseolus vulgaris	Seed	14830	16667	0.6188126359243304	USDA's Ag Handbook 8 and sequelae)
Phaseolus vulgaris	Sprout Seedling	2390	25700	0.9673053866582134	USDA's Ag Handbook 8 and sequelae)
Phoenix dactylifera	Fruit	30	2450	-0.4310869639742895	--
Phyllanthus emblica	Fruit	170	1168	-0.7631167939493619	--
Pinus edulis	Seed	4340	4615	-1.0136950313408202	USDA's Ag Handbook 8 and sequelae)
Pinus pinea	Seed	9010	9655	-0.3310001555512119	USDA's Ag Handbook 8 and sequelae)

Plant	Part	Low PPM	High PPM	StdDev	Reference
Pistacia vera	Seed	12780	13295	0.16205725474128296	--
Pisum sativum	Fruit	2020	19980	4.109071319538206	--
Pisum sativum	Seed	3170	14995	0.3923313199877778	--
Portulaca oleracea	Herb	650	13200	-1	--
Pouteria caimito	Fruit	3160	3160	-0.2472014887150841	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
Pouteria campechiana	Fruit	840	2130	-0.5139649246544948	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
Prunus armeniaca	Fruit	970	7105	0.7745283702955714	USDA's Ag Handbook 8 and sequelae)
Prunus domestica	Fruit	170	1149	-0.7680376728647491	USDA's Ag Handbook 8 and sequelae)
Prunus dulcis	Seed	6660	6966	-0.6952395446381676	USDA's Ag Handbook 8 and sequelae)
Prunus persica	Fruit	230	1863	-0.5831162230970411	--
Psidium cattleianum	Fruit	160	825	-0.8519516080534569	--
Psidium guajava	Fruit	230	1656	-0.6367279039120489	USDA's Ag Handbook 8 and sequelae)
Psophocarpus tetragonolobus	Leaf	2280	9849	-0.6872511348812355	--
Psophocarpus tetragonolobus	Seed	21360	23304	1.517829677713146	--
Psophocarpus tetragonolobus	Tuber	5920	13897	1.6784251962427683	--
Psoralea esculenta	Root	2743	2743	-0.9122845852689443	Izadoost, M. & Robinson, T., Synergism & antagonism in the pharmacology of alkaloidal plants, pp 137-58 in Craker, L. & Simon, J., eds., Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture & Pharmacology, v. 2, 1987, 255pp.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Pyrus communis</i>	Fruit	140	865	-0.8415918629684312	--
<i>Raphanus sativus</i>	Root	350	6785	2.796262067475613	--
<i>Rehmannia glutinosa</i>	Root	2000	4000	0.24101653855587235	--
<i>Rosmarinus officinalis</i>	Leaf	1430	4435	-1.91999880714723	USDA's Ag Handbook 8 and sequelae)
<i>Sambucus canadensis</i>	Plant	260	1287	-1.0954520396154683	--
<i>Santalum album</i>	Fruit	--	--		--
<i>Scutellaria baicalensis</i>	Root	--	--		--
<i>Secale cereale</i>	Seed	6050	6795	-0.7184024064953151	USDA's Ag Handbook 8 and sequelae)
<i>Sechium edule</i>	Fruit	430	6145	0.5258944882549557	--
<i>Senna obtusifolia</i>	Seed	9500	9500	-0.35199573208839235	--
<i>Sesamum indicum</i>	Seed	2890	8729	-0.4564317934443026	--
<i>Sinapis alba</i>	Seed	15190	16252	0.5625986729376861	--
<i>Solanum melongena</i>	Fruit	510	6320	0.5712183730019429	--
<i>Solanum tuberosum</i>	Tuber	1260	6800	-0.16101944225237538	--
<i>Spinacia oleracea</i>	Plant	1740	20664	1.308971519219775	USDA's Ag Handbook 8 and sequelae)
<i>Spinacia oleracea</i>	Leaf	--	--		--
<i>Stachys officinalis</i>	Shoot	--	--		--
<i>Tamarindus indica</i>	Fruit	1390	2026	-0.5409002618755615	USDA's Ag Handbook 8 and sequelae)
<i>Theobroma cacao</i>	Seed	800	800	-1.5304571248204542	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Thymus vulgaris	Plant	2070	2236	-0.977693978133575	USDA's Ag Handbook 8 and sequelae)
Trifolium pratense	Plant	--	--		--
Trigonella foenum-graecum	Seed	15310	18525	0.8704886437054995	--
Trigonella foenum-graecum	Leaf	--	--		--
Triticum aestivum	Plant	15000	18000	0.9784051590640706	--
Triticum aestivum	Seed	2000	9000	-0.4197233983373614	--
Tulipa gesneriana	Stem	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Urtica dioica	Leaf	--	--		Jim Duke's personal files.
Vaccinium corymbosum	Fruit	120	780	-0.8636063212741109	--
Valerianella locusta	Plant	1010	14025	0.4851614347326419	--
Vicia faba	Seed	3660	19265	0.9707255897539737	USDA's Ag Handbook 8 and sequelae)
Vigna aconitifolia	Seed	12480	13818	0.23290039363770462	--
Vigna angularis	Seed	14970	17294	0.7037431294005376	--
Vigna radiata	Seed	16640	18296	0.8394693725634716	USDA's Ag Handbook 8 and sequelae)
Vigna radiata	Sprout Seedling	1666	17437	-1.377095593970498	USDA's Ag Handbook 8 and sequelae)
Vigna unguiculata	Fruit	1840	15144	2.8565781387586036	USDA's Ag Handbook 8 and sequelae)
Vigna unguiculata	Seed	16460	17975	0.7959882108316335	USDA's Ag Handbook 8 and sequelae)
Vigna unguiculata	Seed	1940	18069	0.8087210120864397	USDA's Ag Handbook 8 and sequelae)

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Vitis vinifera	Fruit	150	772	-0.8656782702911159	USDA's Ag Handbook 8 and sequelae)
Zea mays	Seed	1370	5699	-0.8668614509130552	USDA's Ag Handbook 8 and sequelae)
Zingiber officinale	Rhizome	570	3110	-1	--
Zingiber officinale	Root	570	3110	-0.5755610272389462	USDA's Ag Handbook 8 and sequelae)