

Dr. Duke's Phytochemical and Ethnobotanical Databases

List of Plants for THREONINE

Plant	Part	Low PPM	High PPM	StdDev	Reference
Abelmoschus esculentus	Fruit	650.0	6500.0	1.4475659616717724	USDA's Ag Handbook 8 and sequelae)
Acacia farnesiana	Seed	1050.0	1100.0	-1.574239291812439	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.
Acacia farnesiana	Leaf	2000.0	10730.0	0.3153628468971734	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Albizia lebeck	Seed				Wealth of India.
Allium ampeloprasum	Plant				--
Allium sativum var. sativum	Bulb	2.0	10000.0	1.0	--
Allium cepa	Bulb	280.0	3052.0	-1.0	USDA's Ag Handbook 8 and sequelae)
Allium sativum var. sativum	Leaf				--
Allium schoenoprasum	Leaf	1110.0	13875.0	1.3697801459590087	USDA's Ag Handbook 8 and sequelae)
Aloe vera	Leaf		14652.0	1.6302832433742858	--
Alpinia galanga	Leaf				--
Amaranthus sp.	Leaf	990.0	11910.0	0.7109788764338875	--
Anacardium occidentale	Seed	5920.0	6022.0	-0.47321489984555887	--
Ananas comosus	Fruit	78.0	859.0	-0.8973538144786632	--
Anastatica hierochuntica	Plant				--
Anethum graveolens	Fruit	5750.0	6227.0	1.3340819873960998	--
Anethum graveolens	Seed	5750.0	6227.0	-0.4273575247230049	USDA's Ag Handbook 8 and sequelae)
Angelica sinensis	Root				Jim Duke's personal files.
Apium graveolens	Pt	190.0	4105.0		USDA's Ag Handbook 8 and sequelae)
Arachis hypogaea	Seed	7430.0	9570.0	0.32045323154381355	--
Arctium lappa	Root	260.0	1300.0	-0.7216409513599528	USDA's Ag Handbook 8 and sequelae)
Artocarpus altilis	Seed	3850.0	8800.0	0.14820845669324514	USDA's Ag Handbook 8 and sequelae)
Artocarpus altilis	Fruit	520.0	1770.0	-0.5186582080129573	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Asimina triloba</i>	Fruit	254.0	2812.0	-0.08550692158346714	--
<i>Asparagus officinalis</i>	Shoot	850.0	10968.0	-0.13544765054428673	--
<i>Avena sativa</i>	Seed	3000.0	7000.0	-0.2544416663340577	Jim Duke's personal files.*
<i>Avena sativa</i>	Plant		16000.0	1.1658056814606805	Jim Duke's personal files.*
<i>Averrhoa carambola</i>	Fruit	230.0	2530.0	-0.20273212578031571	USDA's Ag Handbook 8 and sequelae)
<i>Basella alba</i>	Leaf	550.0	7970.0	-0.6099763408327679	--
<i>Bertholletia excelsa</i>	Seed	4600.0	4759.0	-0.7557410695030496	USDA's Ag Handbook 8 and sequelae)
<i>Beta vulgaris</i>	Root	440.0	3470.0	-0.07145998210477424	USDA's Ag Handbook 8 and sequelae)
<i>Bixa orellana</i>	Seed	4360.0	7600.0	-0.12022495865829007	--
<i>Brassica rapa</i>	Root	250.0	3075.0	-0.18981089586320535	--
<i>Brassica oleracea</i> var. <i>viridis</i> l.	Leaf	550.0	9014.0	-0.25995673503926836	--
<i>Brassica oleracea</i> var. <i>botrytis</i> l.	Leaf	910.0	9773.0	-0.005488458413534491	--
<i>Brassica chinensis</i>	Leaf	490.0	10471.0	0.2285284810920811	--
<i>Brassica oleracea</i> var. <i>italica</i>	Leaf	910.0	9773.0	-0.005488458413534491	USDA's Ag Handbook 8 and sequelae)
<i>Brassica oleracea</i>	Stem	490.0	5445.0		--
<i>Brassica oleracea</i> var. <i>capitata</i> l.	Leaf	420.0	5615.0	-1.3995320607979895	USDA's Ag Handbook 8 and sequelae)
<i>Brassica nigra</i>	Leaf	660.0	9720.0	-0.023257652960522495	USDA's Ag Handbook 8 and sequelae)
<i>Brassica oleracea</i> var. <i>botrytis</i> l.	Flower	720.0	9300.0		--
<i>Brassica rapa</i>	Leaf	490.0	10471.0	0.2285284810920811	USDA's Ag Handbook 8 and sequelae)
<i>Brassica oleracea</i> var. <i>sabellica</i> l.	Leaf	1470.0	9460.0	-0.11042728658725609	--
<i>Brassica oleracea</i> var. <i>gemmifera</i>	Leaf	1200.0	8568.0	-0.40948618349128063	USDA's Ag Handbook 8 and sequelae)
<i>Brassica napus</i> var. <i>napobrassica</i>	Root	460.0	4445.0	0.22067202021034055	USDA's Ag Handbook 8 and sequelae)
<i>Cajanus cajan</i>	Seed	7190.0	8580.0	0.09899566387879702	--
<i>Calathea allouia</i>	Root	2815.0	3095.0	-0.18381844453366453	--
<i>Camellia sinensis</i>	Leaf				--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Capsicum frutescens	Fruit	740.0	6038.0	1.2555161590514035	USDA's Ag Handbook 8 and sequelae)
Capsicum annuum	Fruit	310.0	4228.0	0.5031132526815597	--
Carica papaya	Fruit	110.0	985.0	-0.8449765955821991	USDA's Ag Handbook 8 and sequelae)
Carum carvi	Seed	7560.0	8390.0	0.056493706448137275	Revised USDA data received 1993.
Castanea dentata	Seed	1904.0	3389.0	-1.0622025520293856	--
Castanea sativa	Seed	729.0	1604.0	-1.4614972573647944	--
Castanea mollissima	Seed	1806.0	3214.0	-1.1013490917681512	--
Ceratonia siliqua	Seed		16920.0	1.9646079005719668	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Chenopodium album	Leaf	1630.0	10383.0	0.1990249127876482	--
Cicer arietinum	Seed	7160.0	8090.0	-0.010614647389746526	USDA's Ag Handbook 8 and sequelae)
Cichorium endivia	Leaf	500.0	8051.0	-0.5828196472798239	--
Cichorium intybus	Leaf	250.0	5712.0	-1.367011082098785	USDA's Ag Handbook 8 and sequelae)
Citrullus lanatus	Seed		15300.0	1.6022227898473942	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Citrullus lanatus	Fruit		3180.0	0.06746781297128561	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Citrus paradisi	Fruit		100.0	-1.2128642044978408	--
Citrus sinensis	Fruit	150.0	1132.0	-0.7838698402029908	USDA's Ag Handbook 8 and sequelae)
Citrus reticulata	Fruit	100.0	806.0	-0.9193855017922554	USDA's Ag Handbook 8 and sequelae)
Cnidioscolus chayamansa	Leaf	2045.0	10230.0	0.14772893607653187	--
Coccinia grandis	Flower				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Cocos nucifera	Leaf				Jim Duke's personal files.
Cocos nucifera	Seed	1210.0	2285.0	-1.3091612941527981	USDA's Ag Handbook 8 and sequelae)

Plant	Part	Low PPM	High PPM	StdDev	Reference
Colocasia esculenta	Root	690.0	2350.0	-0.4070372565590599	--
Colocasia esculenta	Leaf	1670.0	11645.0	0.6221329036989475	--
Corchorus olitorius	Leaf	890.0	13350.0	1.193764539597335	--
Coriandrum sativum	Leaf				--
Crocus sativus	Bulb				--
Cryptotaenia japonica	Shoot				--
Cryptotaenia japonica	Root				--
Cucumis sativus	Fruit	150.0	3797.0	0.32394990867857487	--
Cucurbita pepo	Fruit	250.0	3452.0	0.18053609503349416	--
Cucurbita spp	Fruit	280.0	4430.0	0.5870830798012882	--
Cucurbita foetidissima	Seed	4605.0	26000.0	3.995754076731917	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
Cucurbita pepo	Seed	6205.0	9701.0	0.3497572127196895	--
Daucus carota	Root	380.0	3110.0	-0.17932410603650892	--
Dioscorea pentaphylla	Root	470.0	2530.0	-0.35310519459319256	--
Eryngium creticus	Shoot		5045.0	-1.1513907921742734	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
Fagopyrum esculentum	Seed		5850.0	-0.5116903560459456	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
Ficus carica	Fruit	240.0	1149.0	-0.7768030725741027	USDA's Ag Handbook 8 and sequelae)
Foeniculum vulgare	Seed	6020.0	6604.0	-0.3430246934000643	USDA's Ag Handbook 8 and sequelae)
Foeniculum vulgare	Fruit	6020.0	6604.0	1.4907979518720285	--
Fragaria spp	Fruit	190.0	2254.0	-0.3174631766963803	USDA's Ag Handbook 8 and sequelae)
Ginkgo biloba	Seed	2680.0	7300.0	-0.18733331249617388	USDA's Ag Handbook 8 and sequelae)
Glycine max	Shoot				--
Glycine max	Seed	15850.0	17330.0	2.0563226508170747	USDA's Ag Handbook 8 and sequelae)

Plant	Part	Low PPM	High PPM	StdDev	Reference
Helianthus tuberosus	Tuber		3431.0	-0.64514832719124	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.
Helianthus annuus	Seed	9280.0	9805.0	0.37302144205015586	--
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	720.0	3019.0	-0.20658975958591963	--
Ipomoea aquatica	Leaf	1400.0	18590.0	2.9505679249976584	--
Juglans cinerea	Seed	9400.0	9725.0	0.3551258810267202	--
Juglans nigra	Seed	7300.0	7630.0	-0.1135141232745017	USDA's Ag Handbook 8 and sequelae)
Juglans regia	Seed	4480.0	4650.0	-0.7801237713974808	USDA's Ag Handbook 8 and sequelae)
Lablab purpureus	Seed	1430.0	11789.0	0.8168313554313608	--
Lactuca sativa	Leaf	590.0	9833.0	0.014627610884942494	--
Lagenaria siceraria	Fruit	180.0	4035.0	0.42288465548300735	--
Lens culinaris	Sprout Seedling	3280.0	10935.0	-0.38414936877248523	USDA's Ag Handbook 8 and sequelae)
Lens culinaris	Seed	10060.0	11325.0	0.7130371014954339	USDA's Ag Handbook 8 and sequelae)
Lentinus edodes	Fruit				--
Lepidium meyenii	Root		3310.0	-0.11939959274110076	Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
Linum usitatissimum	Seed		0.195	-1.8202596354546852	--
Lupinus albus	Seed	13310.0	14860.0	1.503797204218498	--
Lycopersicon esculentum	Fruit	65.0	3637.0	0.2574391545243345	--
Macadamia spp	Seed	2630.0	2705.0	-1.2152095987797609	USDA's Ag Handbook 8 and sequelae)
Malus domestica	Fruit	30.0	435.0	-1.0736073129874002	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Mangifera indica	Fruit	190.0	2250.0	-0.31912594555023627	--
Manihot esculenta	Root	650.0	2065.0	-0.4924296880050165	--
Medicago sativa	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Melia azedarach	Seed				--
Mentha spicata	Leaf	1350.0	9340.0	-0.15065942518421008	--
Mentha x piperita	Leaf	1540.0	7215.0	-0.8631035461719366	USDA's Ag Handbook 8 and sequelae)
Momordica charantia	Seed		17.8	-1.8163214935569654	Jim Duke's personal files.
Moringa oleifera	Shoot	4110.0	19260.0	1.2868384427185613	USDA's Ag Handbook 8 and sequelae)
Mucuna pruriens	Seed	6250.0	13250.0	1.143649038621855	--
Murraya sp	Fruit	340.0	979.0	-0.847470748862983	--
Musa x paradisiaca	Fruit	340.0	1321.0	-0.7053040118582944	USDA's Ag Handbook 8 and sequelae)
Myrciaria dubia	Fruit				Jim Duke's personal files.
Nasturtium officinale	Herb	1330.0	26600.0	1.0	USDA's Ag Handbook 8 and sequelae)
Nelumbo nucifera	Seed	2000.0	6060.0	-0.4647145083594269	--
Nelumbo nucifera	Rhizome	510.0	2440.0	1.0	--
Nigella sativa	Seed	2615.0	3345.0	-1.0720451105922753	--
Ocimum basilicum	Leaf		5880.0	-1.3106860880630495	USDA's Ag Handbook 8 and sequelae)
Oenothera biennis	Seed	3500.0	4600.0	-0.7913084970371281	--
Opuntia ficus-indica	Seed		7330.0	-0.1806224771123855	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
Opuntia ficus-indica	Bud		3845.0		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
Oryza sativa	Hay				--
Pachyrhizus erosus	Tuber	350.0	3225.0	-0.7131368451098462	--
Panax ginseng	Leaf				--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Panax quinquefolius</i>	Plant	584.0	1070.0	-1.2992802612381582	--
<i>Panax ginseng</i>	Root				--
<i>Papaver bracteatum</i>	Seed	6350.0	7800.0	-0.07548605609970087	--
<i>Papaver somniferum</i>	Seed	9050.0	9708.0	0.35132307430924015	--
<i>Perideridia gairdneri</i>	Root		2413.0	-0.38816103487100634	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.
<i>Persea americana</i>	Fruit	530.0	2565.0	-0.18818289830907564	--
<i>Phaseolus vulgaris</i>	Sprout Seedling	1760.0	18925.0	1.3707697029783192	USDA's Ag Handbook 8 and sequelae)
<i>Phaseolus acutifolius</i>	Seed	10700.0	11665.0	0.7890932358450354	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
<i>Phaseolus lunatus</i>	Seed	2900.0	10320.0	0.48822411613852307	--
<i>Phaseolus vulgaris</i>	Seed	9090.0	10216.0	0.4649598868080567	USDA's Ag Handbook 8 and sequelae)
<i>Phaseolus vulgaris</i>	Fruit	790.0	8119.0	2.1205716552699916	USDA's Ag Handbook 8 and sequelae)
<i>Phoenix dactylifera</i>	Fruit	10.0	980.0	-0.8470550566495191	--
<i>Phyllanthus emblica</i>	Fruit	135.0	668.0	-0.9767510272502877	--
<i>Pinus pinea</i>	Seed	7610.0	8190.0	0.011754803889548075	--
<i>Pinus edulis</i>	Seed	3670.0	3900.0	-0.9478946559921904	USDA's Ag Handbook 8 and sequelae)
<i>Pistacia vera</i>	Seed	7220.0	7511.0	-0.14013377029686228	--
<i>Pisum sativum</i>	Seed	2030.0	9603.0	0.3278351504659808	--
<i>Pisum sativum</i>	Fruit	990.0	9792.0	2.816024728395267	--
<i>Portulaca oleracea</i>	Herb	470.0	9400.0	-1.0	--
<i>Pouteria caimito</i>	Fruit		2190.0	-0.3440674783580764	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
<i>Prunus persica</i>	Fruit	270.0	2187.0	-0.3453145549984684	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Prunus cerasus	Fruit				--
Prunus dulcis	Seed	7390.0	7730.0	-0.0911446719952071	USDA's Ag Handbook 8 and sequelae)
Prunus armeniaca	Fruit	470.0	3445.0	0.17762624953924613	USDA's Ag Handbook 8 and sequelae)
Prunus domestica	Fruit	160.0	1081.0	-0.8050701430896549	USDA's Ag Handbook 8 and sequelae)
Psidium guajava	Fruit	310.0	2232.0	-0.32660840539258834	USDA's Ag Handbook 8 and sequelae)
Psidium cattleianum	Fruit	220.0	1140.0	-0.7805443024952787	--
Psophocarpus tetragonolobus	Seed	11790.0	12863.0	1.0570792621709848	--
Psophocarpus tetragonolobus	Leaf	1820.0	7862.0	-0.6461852655700264	--
Psophocarpus tetragonolobus	Tuber	4510.0	10587.0	1.7166275671075264	--
Psoralea esculenta	Root		1477.0	-0.6686077570935165	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.
Pyrus communis	Fruit	100.0	618.0	-0.9975356379234878	--
Raphanus sativus	Root	290.0	5620.0	0.5727285358208635	--
Rehmannia glutinosa	Root	1000.0	16000.0	3.682810775852547	--
Ribes nigrum	Fruit Juice		17.0		--
Rosmarinus officinalis	Leaf	1360.0	4220.0	-1.8672306719875797	USDA's Ag Handbook 8 and sequelae)
Sambucus canadensis	Fruit	270.0	1336.0	-0.6990686286563343	USDA's Ag Handbook 8 and sequelae)
Scutellaria baicalensis	Root				--
Secale cereale	Seed	5320.0	5975.0	-0.48372854194682735	USDA's Ag Handbook 8 and sequelae)
Sechium edule	Fruit	440.0	6285.0	1.358192135777012	--
Senna obtusifolia	Seed		5940.0	-0.49155784989458046	--
Sesamum indicum	Seed	7360.0	12396.0	0.952613924696679	--
Sinapis alba	Seed	10950.0	11720.0	0.8013964340486475	--
Solanum tuberosum	Tuber	750.0	4300.0	-0.35834239480644015	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Solanum melongena	Fruit	380.0	4957.0	0.8061528762968172	--
Spinacia oleracea	Leaf				--
Spinacia oleracea	Plant	1220.0	14489.0	0.9163251148553258	USDA's Ag Handbook 8 and sequelae)
Stachys officinalis	Shoot				--
Theobroma cacao	Seed		1400.0	-1.5071309379745554	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Thymus vulgaris	Plant	2520.0	2722.0	-1.0265192446716156	USDA's Ag Handbook 8 and sequelae)
Trifolium pratense	Plant				--
Trigonella foenum-graecum	Seed	8980.0	9880.0	0.3897985305096268	--
Trigonella foenum-graecum	Leaf				--
Triticum aestivum	Seed	3000.0	6000.0	-0.4781361791270037	--
Urtica dioica	Leaf				Jim Duke's personal files.
Vaccinium corymbosum	Fruit	180.0	1170.0	-0.7680735360913586	--
Valerianella locusta	Plant	750.0	10415.0	0.2436687095937672	--
Vicia faba	Seed	2080.0	10950.0	0.629151659198079	USDA's Ag Handbook 8 and sequelae)
Vigna unguiculata	Fruit	1040.0	8560.0	2.3038919214076166	USDA's Ag Handbook 8 and sequelae)
Vigna angularis	Seed	6740.0	7787.0	-0.07839408476600916	--
Vigna radiata	Sprout Seedling	780.0	8192.0	-0.986620334205834	USDA's Ag Handbook 8 and sequelae)
Vigna unguiculata	Seed	1100.0	10165.0	0.45355146665561646	USDA's Ag Handbook 8 and sequelae)
Vigna unguiculata	Seed	9260.0	10112.0	0.4416956574775903	USDA's Ag Handbook 8 and sequelae)
Vigna radiata	Seed	7820.0	8598.0	0.10302216510907004	USDA's Ag Handbook 8 and sequelae)
Vitis vinifera	Fruit	180.0	926.0	-0.8695024361765752	USDA's Ag Handbook 8 and sequelae)
Zea mays	Seed	1290.0	5366.0	-0.6199585002377315	USDA's Ag Handbook 8 and sequelae)
Zingiber officinale	Tuber				--
Zingiber officinale	Rhizome	360.0	2057.0	-1.0	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Zingiber officinale	Shoot				--
Zingiber officinale	Root	360.0	2057.0	-0.4948266685368329	USDA's Ag Handbook 8 and sequelae)