

List of Plants



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ALANINE

*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

Plant	Part	Low PPM	High PPM	StdDev	*Reference
<i>Abelmoschus esculentus</i>	Fruit	730.0	7300.0	1.41	USDA's Ag Handbook 8 and sequelae)
<i>Acacia farnesiana</i>	Leaf	3440.0	18450.0	1.36	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
<i>Allium cepa</i>	Bulb	330.0	8597.0	1.0	USDA's Ag Handbook 8 and sequelae)
<i>Allium schoenoprasum</i>	Leaf	1260.0	15830.0	0.75	USDA's Ag Handbook 8 and sequelae)
<i>Allium ampeloprasum</i>	Plant	--	--		*
<i>Allium sativum</i> var. <i>sativum</i>	Bulb	6.15	7000.0	-1.0	*
<i>Aloe vera</i>	Leaf	--	15769.0	0.74	*
<i>Alpinia galanga</i>	Leaf	--	--		*
<i>Althaea officinalis</i>	Root	--	--		*
<i>Amaranthus</i> sp.	Leaf	1390.0	16722.0	0.96	*
<i>Anacardium occidentale</i>	Seed	7020.0	7141.0	-0.64	*
<i>Ananas comosus</i>	Fruit	170.0	1259.0	-0.96	USDA's Ag Handbook 8 and sequelae)
<i>Anastatica hierochuntica</i>	Fruit	--	--		*
<i>Angelica sinensis</i>	Root	--	--		Jim Duke's personal files.
<i>Angelica archangelica</i>	Leaf	--	--		*
<i>Apium graveolens</i>	Pt	220.0	4665.0		USDA's Ag Handbook 8 and sequelae)
<i>Arachis hypogaea</i>	Seed	10390.0	12137.0	0.42	*
<i>Arctium lappa</i>	Root	250.0	1250.0	-1.08	USDA's Ag Handbook 8 and sequelae)
<i>Artemisia dracunculoides</i>	Plant	--	--		Stitt, Paul. Why George should eat broccoli.
<i>Artocarpus altilis</i>	Seed	3360.0	7685.0	-0.53	USDA's Ag Handbook 8 and sequelae)
<i>Asimina triloba</i>	Fruit	523.0	5331.0	0.64	*
<i>Asparagus officinalis</i>	Seed	1440.0	18581.0	1.79	*
<i>Astragalus membranaceus</i>	Root	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
<i>Avena sativa</i>	Seed	--	4000.0	-1.31	Jim Duke's personal files.*
<i>Basella alba</i>	Leaf	750.0	10870.0	-0.4	*
<i>Bertholletia excelsa</i>	Seed	5700.0	5897.0	-0.91	USDA's Ag Handbook 8 and sequelae)
<i>Beta vulgaris</i>	Root	560.0	4338.0	0.44	USDA's Ag Handbook 8 and sequelae)

Borago officinalis	Leaf	--	--		Jim Duke's personal files.
Brassica oleracea var. sabellica l.	Leaf	1660.0	10680.0	-0.45	*
Brassica oleracea var. botrytis l.	Leaf	1180.0	12673.0	0.02	*
Brassica oleracea var. italica	Leaf	1180.0	12673.0	0.02	USDA's Ag Handbook 8 and sequelae)
Brassica oleracea var. viridis l.	Leaf	670.0	10981.0	-0.38	*
Brassica napus var. napobrassica	Root	330.0	3190.0	-0.12	USDA's Ag Handbook 8 and sequelae)
Brassica rapa	Leaf	860.0	18378.0	1.34	USDA's Ag Handbook 8 and sequelae)
Brassica rapa	Root	350.0	4305.0	0.42	*
Brassica oleracea var. capitata l.	Leaf	420.0	5615.0	-1.62	USDA's Ag Handbook 8 and sequelae)
Brassica chinensis	Leaf	860.0	18378.0	1.34	*
Brassica oleracea var. botrytis l.	Flower	1050.0	13565.0		*
Cajanus cajan	Seed	8170.0	10870.0	0.15	*
Calathea allouia	Root	3545.0	3900.0	0.23	*
Camellia sinensis	Plant	--	--		*
Canavalia ensiformis	Seed	--	--		*
Cannabis sativa	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
Capsicum annum	Fruit	350.0	4774.0	0.42	*
Capsicum frutescens	Fruit	820.0	6691.0	1.17	USDA's Ag Handbook 8 and sequelae)
Carica papaya	Fruit	140.0	1253.0	-0.96	USDA's Ag Handbook 8 and sequelae)
Carum carvi	Seed	9140.0	10150.0	-0.0	Revised USDA data received 1993.
Castanea dentata	Seed	2469.0	4395.0	-1.22	*
Castanea sativa	Seed	1380.0	3036.0	-1.51	*
Castanea mollissima	Seed	2012.0	3581.0	-1.4	*
Ceratonia siliqua	Seed	--	19270.0	1.94	*
Chenopodium album	Plant	3220.0	20511.0	1.1	*
Cicer arietinum	Seed	8280.0	9360.0	-0.17	USDA's Ag Handbook 8 and sequelae)
Cichorium endivia	Leaf	620.0	9984.0	-0.61	*
Citrullus lanatus	Seed	--	15000.0	1.03	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Citrullus lanatus	Fruit	--	2000.0	-0.67	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Citrus reticulata	Fruit	70.0	2740.0	-0.38	*
Citrus paradisi	Fruit	--	90.0	-1.42	*
Citrus sinensis	Fruit	30.0	3775.0	0.03	*

<i>Cnidioscolus chayamansa</i>	Leaf	2850.0	14260.0	0.39	*
<i>Cocos nucifera</i>	Leaf	--	--		Jim Duke's personal files.
<i>Cocos nucifera</i>	Seed	1700.0	3205.0	-1.48	USDA's Ag Handbook 8 and sequelae)
<i>Cocos nucifera</i>	Endosperm	--	--		Jim Duke's personal files.
<i>Colocasia esculenta</i>	Root	730.0	2485.0	-0.47	*
<i>Corchorus olitorius</i>	Leaf	2560.0	20840.0	1.92	*
<i>Coriandrum sativum</i>	Fruit	--	--		*
<i>Crocus sativus</i>	Bulb	--	--		*
<i>Cryptotaenia japonica</i>	Root	--	--		*
<i>Cryptotaenia japonica</i>	Shoot	--	--		*
<i>Cucumis sativus</i>	Fruit	180.0	4557.0	0.33	*
<i>Cucurbita</i> spp	Fruit	620.0	9810.0	2.4	*
<i>Cucurbita pepo</i>	Seed	11580.0	24420.0	3.03	*
<i>Cucurbita foetidissima</i>	Seed	10130.0	17100.0	1.48	*
<i>Cucurbita pepo</i>	Fruit	280.0	3333.0	-0.15	USDA's Ag Handbook 8 and sequelae)
<i>Daucus carota</i>	Root	590.0	4830.0	0.68	*
<i>Dioscorea pentaphylla</i>	Root	550.0	2965.0	-0.23	*
<i>Dryopteris marginalis</i>	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Fagopyrum esculentum</i>	Seed	--	6880.0	-0.7	*
<i>Ficus carica</i>	Fruit	450.0	2154.0	-0.61	USDA's Ag Handbook 8 and sequelae)
<i>Foeniculum vulgare</i>	Fruit	7890.0	8655.0	1.94	*
<i>Foeniculum vulgare</i>	Seed	7890.0	8655.0	-0.32	USDA's Ag Handbook 8 and sequelae)
<i>Fragaria</i> spp	Fruit	310.0	3677.0	-0.01	USDA's Ag Handbook 8 and sequelae)
<i>Ginkgo biloba</i>	Seed	2400.0	6745.0	-0.73	USDA's Ag Handbook 8 and sequelae)
<i>Glycine max</i>	Seed	17190.0	18795.0	1.84	USDA's Ag Handbook 8 and sequelae)
<i>Glycine max</i>	Shoot	--	--		*
<i>Harpagophytum procumbens</i>	Root	--	60.0	-1.67	*
<i>Helianthus annuus</i>	Seed	11170.0	11800.0	0.35	USDA's Ag Handbook 8 and sequelae)
<i>Helianthus tuberosus</i>	Tuber	--	2573.0	-1.04	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>Ipomoea batatas</i>	Root	300.0	3314.0	-0.06	*
<i>Ipomoea aquatica</i>	Leaf	1090.0	14475.0	0.44	*
<i>Juglans cinerea</i>	Seed	13724.0	14194.0	0.86	*
<i>Juglans regia</i>	Seed	--	--		USDA's Ag Handbook 8 and sequelae)
<i>Juglans nigra</i>	Seed	10610.0	11095.0	0.2	USDA's Ag Handbook 8 and sequelae)
<i>Lablab purpureus</i>	Seed	420.0	11775.0	0.34	*
<i>Lactuca sativa</i>	Leaf	560.0	9333.0	-0.76	*
<i>Lens culinaris</i>	Sprout Seedling	3560.0	11865.0	-0.5	USDA's Ag Handbook 8 and sequelae)
<i>Lens culinaris</i>	Seed	11720.0	13200.0	0.65	USDA's Ag Handbook 8 and sequelae)

Lentinus edodes	Fruit	--	--		*
Lepidium meyenii	Root	--	6310.0	1.41	Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
Linum usitatissimum	Seed	--	0.254	-2.16	*
Lippia javanica	Plant	--	--		Neidlein, R., Staehle, R. 1974. Constituents of Lippia javanica. III. Deutsche Apot. Ziiit., 114: 1588.
Lupinus albus	Seed	12960.0	14470.0	0.92	*
Lycium barbarum	Fruit	--	3700.0	-0.0	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Lycium chinense	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Lycopersicon esculentum	Fruit	30.0	4132.0	0.17	*
Lycopodium clavatum	Pollen Or Spore	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Macadamia spp	Seed	3290.0	3385.0	-1.44	USDA's Ag Handbook 8 and sequelae)
Malus domestica	Fruit	70.0	435.0	-1.29	USDA's Ag Handbook 8 and sequelae)
Mangifera indica	Fruit	510.0	5650.0	0.76	*
Manihot esculenta	Root	870.0	2765.0	-0.33	*
Mentha spicata	Leaf	1710.0	11835.0	-0.18	USDA's Ag Handbook 8 and sequelae)
Mentha x piperita	Leaf	1950.0	9135.0	-0.81	USDA's Ag Handbook 8 and sequelae)
Momordica charantia	Seed	--	157.7	-2.13	Jim Duke's personal files.
Momordica charantia	Fruit	--	--		Jim Duke's personal files.
Moringa oleifera	Shoot	5320.0	24930.0	1.0	USDA's Ag Handbook 8 and sequelae)
Mucuna pruriens	Seed	5475.0	11600.0	0.31	*
Murraya sp	Fruit	510.0	1469.0	-0.88	*
Musa x paradisiaca	Fruit	510.0	1469.0	-0.88	USDA's Ag Handbook 8 and sequelae)
Myrciaria dubia	Fruit	--	--		Jim Duke's personal files.
Nasturtium officinale	Herb	1370.0	27400.0	1.0	USDA's Ag Handbook 8 and sequelae)
Nelumbo nucifera	Seed	2390.0	7242.0	-0.62	*
Nelumbo nucifera	Rhizome	540.0	2585.0	1.0	*
Nigella sativa	Seed	8000.0	10255.0	0.02	*
Ocimum basilicum	Leaf	--	7470.0	-1.19	USDA's Ag Handbook 8 and sequelae)
Oenothera biennis	Seed	5500.0	5870.0	-0.91	*
Opuntia ficus-indica	Bud	--	7180.0		Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
Opuntia ficus-indica	Seed	--	8480.0	-0.36	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
Pachyrhizus erosus	Tuber	380.0	3500.0	-0.68	*
Panax quinquefolius	Plant	209.0	2250.0	-1.56	*
Panax ginseng	Leaf	--	--		*
Panax ginseng	Root	--	--		*
Papaver somniferum	Seed	11780.0	12637.0	0.53	*

<i>Papaver bracteatum</i>	Seed	7000.0	8650.0	-0.32	*
<i>Perideridia gairdneri</i>	Root	--	2603.0	-0.41	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	960.0	4625.0	0.36	*
<i>Phaseolus vulgaris</i>	Fruit	840.0	8633.0	1.94	USDA's Ag Handbook 8 and sequelae)
<i>Phaseolus vulgaris</i>	Sprout Seedling	1740.0	18710.0	1.39	USDA's Ag Handbook 8 and sequelae)
<i>Phaseolus lunatus</i>	Seed	2600.0	12190.0	0.43	USDA's Ag Handbook 8 and sequelae)
<i>Phaseolus vulgaris</i>	Seed	9050.0	10171.0	0.0	USDA's Ag Handbook 8 and sequelae)
<i>Phoenix dactylifera</i>	Fruit	80.0	1290.0	-0.95	*
<i>Phyllanthus emblica</i>	Fruit	240.0	1190.0	-0.99	*
<i>Pinus pinea</i>	Seed	12540.0	15000.0	1.03	*
<i>Pinus edulis</i>	Seed	6050.0	6430.0	-0.79	USDA's Ag Handbook 8 and sequelae)
<i>Pistacia vera</i>	Seed	9940.0	10340.0	0.04	*
<i>Pisum sativum</i>	Fruit	580.0	5737.0	0.8	*
<i>Pisum sativum</i>	Shoot	--	313.0	-1.0	*
<i>Pisum sativum</i>	Seed	2400.0	11353.0	0.25	*
<i>Portulaca oleracea</i>	Herb	570.0	13400.0	-1.0	*
<i>Prunus dulcis</i>	Seed	9430.0	9864.0	-0.06	USDA's Ag Handbook 8 and sequelae)
<i>Prunus domestica</i>	Fruit	290.0	1959.0	-0.69	USDA's Ag Handbook 8 and sequelae)
<i>Prunus armeniaca</i>	Fruit	680.0	4980.0	0.5	USDA's Ag Handbook 8 and sequelae)
<i>Prunus persica</i>	Fruit	420.0	3402.0	-0.12	*
<i>Psidium guajava</i>	Fruit	410.0	2952.0	-0.3	USDA's Ag Handbook 8 and sequelae)
<i>Psidium cattleianum</i>	Fruit	290.0	1500.0	-0.87	*
<i>Psophocarpus tetragonolobus</i>	Tuber	3970.0	9319.0	1.56	*
<i>Psophocarpus tetragonolobus</i>	Seed	10400.0	11346.0	0.25	*
<i>Psophocarpus tetragonolobus</i>	Leaf	1720.0	7430.0	-1.2	*
<i>Psoralea esculenta</i>	Root	--	1139.0	-1.13	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>Pyrus communis</i>	Fruit	130.0	803.0	-1.14	*
<i>Raphanus sativus</i>	Root	220.0	4265.0	0.41	*
<i>Rehmannia glutinosa</i>	Root	3000.0	9000.0	2.74	*
<i>Rosmarinus officinalis</i>	Leaf	1720.0	5335.0	-1.69	USDA's Ag Handbook 8 and sequelae)
<i>Salvia officinalis</i>	Plant	--	--		Stitt, Paul. Why George should eat broccoli.
<i>Sambucus canadensis</i>	Fruit	300.0	1485.0	-0.87	*
<i>Santalum album</i>	Fruit	--	--		*

Secale cereale	Seed	7110.0	7985.0	-0.46	USDA's Ag Handbook 8 and sequelae)
Sechium edule	Fruit	560.0	8000.0	1.69	*
Senna obtusifolia	Seed	--	6500.0	-0.78	*
Sesamum indicum	Seed	5510.0	14802.0	0.99	*
Sinapis alba	Seed	11870.0	12700.0	0.54	*
Solanum melongena	Fruit	420.0	6815.0	1.22	*
Solanum tuberosum	Tuber	1140.0	5700.0	0.16	*
Spinacia oleracea	Plant	1420.0	16864.0	0.57	USDA's Ag Handbook 8 and sequelae)
Stachys officinalis	Shoot	--	--		*
Theobroma cacao	Seed	--	10400.0	0.05	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Thymus vulgaris	Plant	--	--		Stitt, Paul. Why George should eat broccoli.
Tilia sp.	Flower	--	--		*
Trigonella foenum-graecum	Seed	8720.0	11220.0	0.23	*
Triticum aestivum	Seed	3036.0	3542.0	-1.41	*
Urtica dioica	Leaf	--	--		Jim Duke's personal files.
Vaccinium corymbosum	Fruit	280.0	1820.0	-0.74	*
Valeriana officinalis	Rhizome	--	--		*
Valeriana officinalis	Root	--	--		*
Valerianella locusta	Plant	880.0	12220.0	-0.11	*
Vicia faba	Seed	2280.0	12000.0	0.39	USDA's Ag Handbook 8 and sequelae)
Vigna unguiculata	Seed	11090.0	12111.0	0.42	USDA's Ag Handbook 8 and sequelae)
Vigna angularis	Seed	11600.0	13401.0	0.69	*
Vigna unguiculata	Seed	9830.0	12175.0	0.43	*
Vigna radiata	Sprout Seedling	990.0	10399.0	-0.9	USDA's Ag Handbook 8 and sequelae)
Vigna radiata	Seed	10500.0	11545.0	0.3	USDA's Ag Handbook 8 and sequelae)
Vitis vinifera	Fruit	280.0	1440.0	-0.89	USDA's Ag Handbook 8 and sequelae)
Zea mays	Seed	2950.0	12272.0	0.45	USDA's Ag Handbook 8 and sequelae)
Zingiber officinale	Rhizome	310.0	1793.0	-1.0	*
Zingiber officinale	Root	310.0	1793.0	-0.81	USDA's Ag Handbook 8 and sequelae)