

Dr. Duke's Phytochemical and Ethnobotanical Databases

List of Plants for COPPER

Plant	Part	Low PPM	High PPM	StdDev	Reference
Zizyphus jujuba	Fruit		7.0	-0.45288591601748224	--
Zingiber officinale	Root	3.0	16.0	0.47378131766732856	--
Zingiber officinale	Rhizome	3.0	16.0	1.223047708525459	--
Zea mays	Fruit	0.0	20.0	0.5588968590110831	--
Xanthosoma sagittifolium	Root	1.9	14.0	0.25236706334497194	--
Vitis vinifera	Fruit	0.7	11.6	-0.09487047254583593	--
Vigna mungo	Seed	7.2	8.0	-0.6181060132518703	--
Vigna unguiculata	Seed	9.0	10.0	-0.43669625458362493	USDA's Ag Handbook 8 and sequelae)
Vigna unguiculata	Seed	1.3	12.0	-0.2552864959153795	--
Vigna radiata	Sprout Seedling	1.0	23.0	1.366529661191855	USDA's Ag Handbook 8 and sequelae)
Vigna angularis	Seed	11.0	13.0	-0.1645816165812568	--
Vigna radiata	Seed	9.0	13.0	-0.1645816165812568	USDA's Ag Handbook 8 and sequelae)
Vigna aconitifolia	Seed	5.0	9.0	-0.5274011339177476	--
Vicia faba	Fruit		1.7	-0.8653819704522049	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Valerianella radicata	Plant	11.1	11.3	-0.3008472414419902	--
Valerianella locusta	Plant	13.0	13.2	-0.09043874129237772	--
Vaccinium myrtillus	Fruit	0.7	6.3	-0.5073665269805587	ACTA AGRIC SCAND SUPPL 22: 1980
Vaccinium macrocarpon	Fruit	0.5	4.7	-0.6318936377533051	USDA's Ag Handbook 8 and sequelae)
Vaccinium vitis-idaea	Fruit	0.7	5.2	-0.5929789156368218	--
Vaccinium corymbosum	Fruit	0.5	4.0	-0.6863742487163819	--
Urtica dioica	Leaf	2.0	15.0	-0.3483233590115694	--
Tussilago farfara	Flower		20.0	0.911291051800356	--
Triticum aestivum	Plant	2.2	4.0	-1.1092588472799756	--
Triticum aestivum	Seed	1.1	16.7	0.17102643695499678	--
Trigonella foenum-graecum	Seed		11.0	-0.34599137524950224	USDA's Ag Handbook 8 and sequelae)

Plant	Part	Low PPM	High PPM	StdDev	Reference
Trigonella foenum-graecum	Leaf		3.0	-0.6785583269823768	--
Trifolium pratense	Hay	7.0	18.0		--
Trichosanthes anguina	Fruit	1.1	20.0	0.5588968590110831	--
Tragopogon porrifolius	Root		1.0	-1.1868255897503461	--
Trachyspermum ammi	Fruit		9.1	-0.2894440831282523	--
Thymus vulgaris	Plant	8.0	9.0	-0.5555522679388898	USDA's Ag Handbook 8 and sequelae)
Theobroma cacao	Seed		24.0	0.8331720560940928	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Tetrapanax papyrifera	Pith		8.0		--
Tephrosia candida	Plant		11.2	-0.31192137302881207	--
Taraxacum officinale	Root	3.0	28.0	1.8022668436014682	--
Taraxacum mongolicum	Plant		19.0	0.5518608907432819	--
Taraxacum officinale	Leaf	4.0	49.0	0.5873423835723849	--
Tamarindus indica	Leaf		21.0	-0.18320587502616575	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Syzygium aromaticum	Flower	3.0	9.0	-0.8371161987468383	--
Syzygium cumini	Fruit	2.3	14.0	0.0919201936132837	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
Syzygium aromaticum	Fruit	3.0	9.0	-0.2972270275515491	--
Syzygium jambos	Fruit	0.1	0.6	-0.9509943591084681	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
Symphoricarpos orbiculatus	Stem	3.8	132.0	0.40979815881220705	--
Spondias dulcis	Fruit		0.9	-0.9276455258385781	--
Spondias tuberosa	Fruit		0.63	-0.948659475781479	--
Spinacia oleracea	Plant	0.1	24.0	1.1055674700843674	--
Sorbus aucubaria	Fruit	0.8	4.0	-0.6863742487163819	--
Sophora subprostrata	Root		5.0	-0.7439970811056329	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Sophora angustifolia</i>	Root	5.0	10.0	-0.19046144529974124	--
<i>Solanum melongena</i>	Fruit	0.6	20.0	0.5588968590110831	--
<i>Solanum tuberosum</i>	Tuber	0.48	14.0	0.30598824955260295	--
<i>Sinomenium acutum</i>	Rhizome		16.0	1.223047708525459	--
<i>Sinapis alba</i>	Seed	6.0	8.0	-0.6181060132518703	--
<i>Simmondsia chinensis</i>	Seed		10.0	-0.43669625458362493	--
<i>Siegesbeckia orientalis</i>	Plant	9.0	10.0	-0.4448109520706726	--
<i>Sesamum indicum</i>	Plant	14.0	56.0	4.649289577867317	--
<i>Senna occidentalis</i>	Seed		15.0	0.01682814208698858	--
<i>Senna obtusifolia</i>	Seed	9.0	32.0	1.5588110907670745	--
<i>Sechium edule</i>	Leaf	1.8	10.0	-0.4859212623327392	--
<i>Secale cereale</i>	Seed	4.0	5.0	-0.8902206512542384	USDA's Ag Handbook 8 and sequelae)
<i>Scutellaria baicalensis</i>	Root	13.0	18.0	0.6951955719896852	--
<i>Scrophularia buergeriana</i>	Root	5.0	6.0	-0.6332899539444546	--
<i>Schizonepeta tenuifolia</i>	Plant		23.0	0.9948261542161503	--
<i>Schisandra chinensis</i>	Fruit	5.0	11.0	-0.14156813908561597	--
<i>Satureja montana</i>	Leaf	8.0	9.0	-0.5134408429969731	USDA's Ag Handbook 8 and sequelae)
<i>Satureja hortensis</i>	Leaf	8.0	9.0	-0.5134408429969731	USDA's Ag Handbook 8 and sequelae)
<i>Sassafras albidum</i>	Stem	0.2	56.0	-0.24031303106521615	--
<i>Sassafras albidum</i>	Leaf	1.6	102.0	2.045880158776784	--
<i>Santalum acuminatum</i>	Fruit	2.0	9.0	-0.2972270275515491	--
<i>Salvia miltiorrhiza</i>	Root		8.0	-0.41187569962209786	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.
<i>Salvia officinalis</i>	Leaf	7.0	8.0	-0.540960423661207	USDA's Ag Handbook 8 and sequelae)
<i>Rumex acetosa</i>	Leaf	3.0	30.0	0.06447035095193995	--
<i>Rubus chamaemorus</i>	Fruit	0.7	5.6	-0.5618471379436353	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Rubus chingii	Fruit		12.0	-0.06373869485264942	--
Rubus idaeus	Fruit	0.7	6.0	-0.5307153602504487	Revised USDA data received 1993.
Rubia cordifolia	Root		15.0	0.36307419050615025	--
Rosmarinus officinalis	Plant	5.0	6.0	-0.8877762155435414	USDA's Ag Handbook 8 and sequelae)
Rosmarinus officinalis	Leaf	3.0	19.0	-0.23824503635463365	USDA's Ag Handbook 8 and sequelae)
Rosa laevigata	Fruit	8.0	9.0	-0.2972270275515491	--
Rosa canina	Fruit	1.8	36.0	1.804167966738548	--
Ribes rubrum	Fruit	0.5	7.0	-0.45288591601748224	--
Ribes nigrum	Fruit	0.6	7.0	-0.45288591601748224	--
Ribes uva-crispa	Fruit	0.4	6.0	-0.5307153602504487	--
Rhus copallina	Stem	1.8	30.0	-0.4627194907601241	--
Rhus copallina	Leaf	0.8	19.0	-0.23824503635463365	--
Rhus glabra	Stem	0.6	20.0	-0.5482604367966272	--
Rhizophora mangle	Leaf		35.0	0.20206825427310968	--
Rheum rhabarbarum	Pt	0.2	5.2	-0.9999999999999998	--
Rheum palmatum	Rhizome	6.0	10.0	-0.12058216844617241	--
Rehmannia glutinosa	Root		4.0	-0.8547042082668113	--
Raphanus sativus	Seed		6.0	-0.7995157719201157	--
Raphanus sativus	Root	0.3	8.0	-0.41187569962209786	--
Quisqualis indica	Fruit		13.0	0.014090749380317144	--
Quercus rubra	Stem	1.2	13.2	-0.6064282801014491	--
Quercus alba	Stem	1.2	15.2	-0.5893200908941485	--
Quercus velutina	Stem	1.5	31.0	-0.4541653961564738	--
Quercus rubra	Seed		7.0	-0.7088108925859931	--
Quercus stellata	Stem	1.2	42.0	-0.36007035551632044	--
Quercus phellos	Stem	1.0	29.0	-0.4712735853637744	--
Pyrus communis	Fruit	0.45	11.1	-0.1337851946623192	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Punica granatum</i>	Fruit		2.0	-0.8420331371823149	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Pulsatilla chinensis</i>	Root		9.0	-0.30116857246091955	--
<i>Pueraria pseudohirsuta</i>	Root	12.0	13.0	0.14165993618379366	--
<i>Psophocarpus tetragonolobus</i>	Seed	28.0	33.0	1.6495159701011972	--
<i>Psidium guajava</i>	Fruit	1.0	9.0	-0.2972270275515491	USDA's Ag Handbook 8 and sequelae)
<i>Prunus persica</i>	Seed		10.0	-0.43669625458362493	--
<i>Prunus domestica</i>	Fruit	0.33	34.0	1.6485090782726148	--
<i>Prunus persica</i>	Fruit	0.3	30.0	1.3371913013407486	--
<i>Prunus serotina</i>	Stem	1.3	378.0	2.514105431310182	--
<i>Prunus armeniaca</i>	Seed	1.0	16.0	0.10753302142111128	--
<i>Prunus dulcis</i>	Seed	1.0	11.0	-0.34599137524950224	--
<i>Prunus serotina</i>	Leaf	0.8	29.0	0.03695077028770601	--
<i>Prunella vulgaris</i>	Flower		8.0	-0.9960623124329469	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.
<i>Portulaca oleracea</i>	Herb	2.0	19.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Polystichum polyblepharum</i>	Plant		10.0	-0.4448109520706726	--
<i>Polygonum multiflorum</i>	Rhizome		5.0	-1.2402737325891986	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.
<i>Polygala tenuifolia</i>	Root	8.0	9.0	-0.30116857246091955	--
<i>Platycodon grandiflorum</i>	Root	6.0	10.0	-0.19046144529974124	--
<i>Plantago asiatica</i>	Plant		14.0	-0.0018456885978039082	--
<i>Pisum sativum</i>	Seed	2.0	10.0	-0.43669625458362493	--
<i>Pistacia vera</i>	Seed	11.0	33.0	1.6495159701011972	--
<i>Piper nigrum</i>	Fruit	9.0	20.0	0.5588968590110831	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Pinus pinea</i>	Seed	10.0	11.0	-0.34599137524950224	USDA's Ag Handbook 8 and sequelae)
<i>Pinus echinata</i>	Shoot	0.8	2.1	-1.4250069598599244	--
<i>Pinus edulis</i>	Seed	10.0	12.0	-0.2552864959153795	--
<i>Pinellia ternata</i>	Tuber	2.0	4.0	-1.1062652099209485	--
<i>Pimpinella anisum</i>	Seed		9.0	-0.5274011339177476	USDA's Ag Handbook 8 and sequelae)
<i>Pimenta dioica</i>	Bud	5.0	10.0		USDA's Ag Handbook 8 and sequelae)
<i>Physalis ixocarpa</i>	Fruit	1.0	16.0	0.24757908207921683	--
<i>Physalis peruviana</i>	Fruit	2.0	11.0	-0.14156813908561597	--
<i>Phyllanthus emblica</i>	Fruit	3.0	14.0	0.0919201936132837	--
<i>Phoenix dactylifera</i>	Fruit	2.0	4.0	-0.6863742487163819	--
<i>Phoenix dactylifera</i>	Seed	0.6	2.0	-1.1623352892566066	Abstract (See species file)
<i>Phellodendron amurense</i>	Bark		6.0	-0.534522483824849	--
<i>Phaseolus vulgaris</i>	Fruit	0.62	45.0	2.504632964835247	--
<i>Phaseolus acutifolius</i>	Seed	10.0	11.0	-0.34599137524950224	--
<i>Phaseolus lunatus</i>	Seed	3.0	15.0	0.01682814208698858	--
<i>Phaseolus vulgaris</i>	Seed	2.0	15.0	0.01682814208698858	--
<i>Phaseolus coccineus</i>	Seed		0.7	-1.2802516323909663	--
<i>Peucedanum decursivum</i>	Plant	9.0	10.0	-0.4448109520706726	--
<i>Petroselinum crispum</i>	Plant	1.0	12.0	-0.22332832033423827	--
<i>Petasites japonicus</i>	Plant	15.0	16.0	0.21963694313863044	Chem. & Pharm. Bull. 38: 2205.
<i>Persea americana</i>	Fruit	2.0	11.0	-0.14156813908561597	--
<i>Perilla frutescens</i>	Plant		17.0	0.33037825900684764	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
<i>Peganum harmala</i>	Plant		9.0	-0.5555522679388898	--
<i>Pastinaca sativa</i>	Root	0.8	12.0	0.030952809022615355	--
<i>Papaver somniferum</i>	Seed	16.0	23.0	0.7424671767599702	--
<i>Panax quinquefolius</i>	Plant	6.0	13.0	-0.11258700446602109	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Panax ginseng	Stem				--
Panax ginseng	Flower				--
Panax japonicus	Rhizome		6.0	-1.0163354197605934	--
Panax ginseng	Leaf				--
Panax ginseng	Inflorescence				--
Panax ginseng	Root		17.0	0.5844884448285068	--
Panax ginseng	Fruit				--
Paeonia suffruticosa	Root Bark	5.0	6.0	-0.8436614877321073	--
Paeonia moutan	Root Bark	5.0	6.0	-0.8436614877321073	--
Paeonia lactiflora	Root	3.0	6.0	-0.6332899539444546	--
Pachyrhizus erosus	Tuber	4.0	25.0	1.8594670549735095	--
Origanum vulgare	Plant		9.0	-0.5555522679388898	USDA's Ag Handbook 8 and sequelae)
Origanum majorana	Plant		11.0	-0.33406963620245544	USDA's Ag Handbook 8 and sequelae)
Opuntia ficus-indica	Seed		3.4	-1.0353484581888348	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
Ophiopogon japonicus	Tuber	3.0	4.0	-1.1062652099209485	--
Oenothera biennis	Seed	11.0	13.0	-0.1645816165812568	--
Ocimum basilicum	Leaf		14.0	-0.3758429396758034	USDA's Ag Handbook 8 and sequelae)
Nyssa sylvatica	Stem	0.3	31.0	-0.4541653961564738	--
Nyssa sylvatica	Leaf	1.25	182.0	4.2474466119155	--
Notopterygium incisum	Rhizome		7.0	-0.7923971069319881	--
Nelumbo nucifera	Seed		17.0	0.19823790075523398	--
Nasturtium officinale	Plant				--
Nardostachys chinensis	Rhizome		10.0	-0.12058216844617241	--
Myristica fragrans	Seed	10.0	21.0	0.5610574180917248	--
Myristica fragrans	Aril	6.0	25.0		--
Musa x paradisiaca	Fruit	0.76	6.0	-0.5307153602504487	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Murraya sp	Fruit	0.76	6.0	-0.5307153602504487	--
Morus alba	Root Bark		6.0	-0.8436614877321073	--
Moringa oleifera	Leaf	1.0	4.0	-0.6510387463181428	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Morinda sp	Root	6.0	7.0	-0.5225828267832762	--
Momordica charantia	Fruit		30.0	1.3371913013407486	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp:ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
Mentha spicata	Plant	1.0	17.0	0.33037825900684764	--
Mentha arvensis var. piperascens	Plant		20.0	0.6626022066114992	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
Mentha x piperita	Plant	3.0	15.0	0.10889562727041327	--
Manihot esculenta	Root	1.0	3.8	-0.876845633699047	--
Mangifera indica	Fruit	1.1	16.6	0.2942767486189969	--
Malus domestica	Fruit	0.24	4.0	-0.6863742487163819	--
Magnolia officinalis	Bark		8.0	0.6681531047810607	--
Magnolia denudata	Flower		16.0	0.2755065970559217	--
Magnolia kobus	Flower		16.0	0.2755065970559217	--
Magnolia fargesii	Flower		16.0	0.2755065970559217	--
Macadamia spp	Seed	2.0	3.0	-1.071630409922484	USDA's Ag Handbook 8 and sequelae)
Lygodium japonicum	Pollen Or Spore		13.0		--
Lycopodium clavatum	Plant		8.0	-0.666293583807107	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.
Lycopersicon esculentum	Fruit	0.4	100.0	6.785252397648407	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Lycium chinense</i>	Fruit		15.0	0.16974963784625027	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.
<i>Lycium chinense</i>	Root Bark		17.0	1.6873229754642154	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.
<i>Lupinus albus</i>	Seed	10.0	12.0	-0.2552864959153795	--
<i>Lophatherum gracile</i>	Plant	8.0	9.0	-0.5555522679388898	--
<i>Lonicera japonica</i>	Flower		13.0	-0.20133174400240403	--
<i>Liquidambar styraciflua</i>	Leaf	2.8	164.0	3.752094159959289	--
<i>Liquidambar styraciflua</i>	Stem	0.6	360.0	2.3601317284444767	--
<i>Linum usitatissimum</i>	Seed	17.0	23.0	0.7424671767599702	Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.
<i>Ligustrum lucidum</i>	Fruit		12.0	-0.06373869485264942	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.
<i>Ligustrum japonicum</i>	Fruit		12.0	-0.06373869485264942	--
<i>Lepidium meyenii</i>	Root		60.0	5.344894912759173	Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
<i>Lens culinaris</i>	Sprout Seedling	3.3	12.0	-0.36791183185934606	USDA's Ag Handbook 8 and sequelae)
<i>Lens culinaris</i>	Seed	8.0	9.0	-0.5274011339177476	USDA's Ag Handbook 8 and sequelae)
<i>Laurus nobilis</i>	Leaf		4.0	-0.6510387463181428	USDA's Ag Handbook 8 and sequelae)
<i>Lactuca sativa</i>	Leaf	0.36	29.0	0.03695077028770601	--
<i>Lablab purpureus</i>	Seed	9.0	16.0	0.10753302142111128	--
<i>Jussiaea repens</i>	Plant		15.0	0.10889562727041327	--
<i>Juniperus virginiana</i>	Shoot	0.8	17.6	-0.5479345093835976	--
<i>Juncus effusus</i>	Pith	5.0	8.0		--
<i>Juglans nigra</i>	Seed	10.0	20.0	0.4703525387576021	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Juglans cinerea	Seed	4.0	8.4	-0.5818240615182214	--
Juglans regia	Seed	3.0	15.0	0.01682814208698858	--
Isatis tinctoria	Root		10.0	-0.19046144529974124	--
Ipomoea batatas	Root	1.5	7.0	-0.5225828267832762	--
Ipomoea aquatica	Leaf	2.6	19.0	-0.23824503635463365	--
Inula helenium	Plant				--
Hyoscyamus niger	Seed		26.0	1.0145818147623382	--
Houttuynia cordata	Plant		26.0	1.3270501018208019	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
Hordeum vulgare	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.
Hordeum vulgare	Seed	1.0	20.0	0.4703525387576021	Jim Duke's personal files.*
Hibiscus sabdariffa	Flower	5.6	6.2	-1.2821653170679421	--
Helianthus tuberosus	Plant	8.0	30.0	1.7700153652936705	Bonness, M. S., Promising new drugs from plants: poisons that heal, Herbarist, #56, 1990, 59-68
Helianthus annuus	Seed	15.0	19.0	0.3796476594234794	USDA's Ag Handbook 8 and sequelae)
Glycyrrhiza uralensis	Root	13.0	14.0	0.25236706334497194	--
Glycine max	Seed	4.3	18.0	0.2889427800893567	--
Glehnia littoralis	Root		15.0	0.36307419050615025	--
Glechoma hederacea	Plant		11.0	-0.33406963620245544	Chem. & Pharm. Bull. 38: 2205.
Ginkgo biloba	Seed	3.0	6.0	-0.7995157719201157	USDA's Ag Handbook 8 and sequelae)
Geranium thunbergii	Plant		23.0	0.9948261542161503	--
Gentiana scabra	Root		18.0	0.6951955719896852	--
Genipa americana	Seed				--
Genipa americana	Fruit		1.0	-0.9198625814152814	--
Gastrodia elata	Rhizome		4.0	-1.4642120454178038	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Gardenia jasminoides	Fruit	10.0	13.0	0.014090749380317144	--
Fritillaria thunbergii	Bulb		12.0	1.168187336917901	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.
Fraxinus rhynchophylla	Bark		6.0	-0.534522483824849	--
Fragaria spp	Fruit	0.4	17.0	0.32540852631218337	USDA's Ag Handbook 8 and sequelae)
Forsythia suspensa	Fruit		19.0	0.4810674147781165	--
Foeniculum vulgare	Seed	8.0	24.0	0.8331720560940928	--
Foeniculum vulgare	Fruit	8.0	24.0	0.8702146359429493	--
Firmiana simplex	Seed		15.0	0.01682814208698858	--
Ficus carica	Fruit	0.6	3.6	-0.7175060264095684	USDA's Ag Handbook 8 and sequelae)
Fallopia japonica	Plant	9.0	10.0	-0.4448109520706726	Chem. & Pharm. Bull. 38: 2205.
Eupatorium odoratum	Leaf		35.0	0.20206825427310968	Tramil
Euodia rutaecarpa	Fruit		16.0	0.24757908207921683	--
Eucommia ulmoides	Bark		5.0	-1.1358602781278038	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.
Erythroxylum coca	Leaf	2.2	13.0	-0.40336252034003733	--
Erythroxylum novogranatense	Leaf	2.7	2.9	-0.6813102850488002	--
Erythroxylum novogranatense	Leaf	2.5	2.7	-0.6868142011816469	--
Eriocaulon sp	Leaf		9.0	-0.5134408429969731	--
Eriobotrya japonica	Leaf		7.0	-0.568480004325441	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.
Equisetum hyemale	Plant		4.0	-1.1092588472799756	--
Ephedra spp	Plant		2.0	-1.33074147901641	--
Eleutherococcus senticosus	Root				--
Eleutherococcus senticosus	Leaf				--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eleutherococcus senticosus	Stem				--
Eleutherococcus senticosus	Flower				--
Elettaria cardamomum	Fruit	3.8	15.4	0.20088141553943706	--
Elaeagnus umbellatus	Fruit	2.0	13.0	0.014090749380317144	--
Drynaria fortunei	Rhizome		10.0	-0.12058216844617241	--
Diospyros virginiana	Stem	0.2	108.0	0.20449988832459973	--
Diospyros virginiana	Leaf	1.0	7.5	-0.554720213993324	--
Dioscorea alata	Root	0.5	10.7	-0.1129664562869169	--
Dioscorea bulbifera	Rhizome		8.0	-0.5684587941033828	--
Dendrobium nobile	Stem		9.0	-0.6423554774367803	--
Daucus carota	Root	0.3	18.0	0.6951955719896852	--
Cyrtosperma chamissonis	Root	0.9	4.4	-0.8104213574023399	--
Cyperus rotundus	Rhizome		10.0	-0.12058216844617241	--
Cynara cardunculus	Flower	2.0	24.0	1.54707550654479	USDA's Ag Handbook 8 and sequelae)
Cynanchum atratum	Root		12.0	0.030952809022615355	--
Curcuma longa	Rhizome	6.0	17.0	1.4469860213540642	--
Cuminum cyminum	Seed	9.0	16.0	0.10753302142111128	--
Cuminum cyminum	Fruit	9.0	16.0	0.24757908207921683	--
Cucurbita spp	Fruit	0.7	12.0	-0.06373869485264942	--
Cucurbita pepo	Seed	14.0	25.0	0.9238769354282156	--
Cucurbita maxima	Leaf	4.2	30.0	0.06447035095193995	--
Cucumis sativus	Fruit	0.3	42.0	2.2711446321363473	--
Cucumis melo	Fruit	0.4	7.7	-0.3984053050544054	--
Crocus sativus	Silk Stigma Style		3.0		USDA's Ag Handbook 8 and sequelae)
Crataegus laevigata	Flower				--
Crataegus cuneata	Fruit		8.0	-0.3750564717845157	--
Crataegus laevigata	Fruit				--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Corylus avellana</i>	Seed	13.0	82.0	6.094055057473209	--
<i>Cornus officinalis</i>	Fruit	5.0	6.0	-0.5307153602504487	--
<i>Coriandrum sativum</i>	Leaf		18.0	-0.2657646170188676	USDA's Ag Handbook 8 and sequelae)
<i>Coriandrum sativum</i>	Fruit	10.0	13.0	0.014090749380317144	--
<i>Coptis japonica</i>	Rhizome	11.0	17.0	1.4469860213540642	--
<i>Coptis chinensis</i>	Rhizome	11.0	17.0	1.4469860213540642	--
<i>Coptis spp</i>	Rhizome	11.0	17.0	1.4469860213540642	--
<i>Commiphora wightii</i>	Inflorescence				Jim Duke's personal files.
<i>Colocasia esculenta</i>	Leaf		1.5	-0.7198376979787277	--
<i>Colocasia esculenta</i>	Root	1.6	8.0	-0.41187569962209786	--
<i>Coix lacryma-jobi</i>	Seed		5.0	-0.8902206512542384	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
<i>Cocos nucifera</i>	Seed	3.2	33.0	1.6495159701011972	--
<i>Cnidium officinale</i>	Rhizome		9.0	-0.34452048127477763	--
<i>Citrus reticulata</i>	Fruit	0.0	4.8	-0.6241106933300086	--
<i>Citrus paradisi</i>	Fruit	0.0	7.7	-0.3984053050544054	--
<i>Citrus medica</i>	Fruit		9.0	-0.2972270275515491	--
<i>Citrus aurantium</i>	Fruit	4.0	10.0	-0.21939758331858253	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
<i>Citrus sinensis</i>	Fruit	0.44	5.5	-0.569630082366932	--
<i>Citrus aurantiifolia</i>	Fruit	1.0	6.0	-0.5307153602504487	USDA's Ag Handbook 8 and sequelae)
<i>Citrullus lanatus</i>	Fruit		4.0	-0.6863742487163819	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
<i>Cistanche salsa</i>	Plant		8.0	-0.666293583807107	--
<i>Cinnamomum sieboldii</i>	Bark		7.0	0.06681531047810586	--
<i>Cinnamomum verum</i>	Bark	4.9	9.0	1.2694908990840155	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Cinnamomum burmannii	Bark		5.0	-1.1358602781278038	--
Cinnamomum sieboldii	Root Bark		9.0	-0.15339299776947393	--
Cinnamomum aromaticum	Bark	2.0	10.0	1.8708286933869704	--
Cinnamomum verum	Leaf		10.9	-0.4611536397349287	--
Cimicifuga dahurica	Rhizome		8.0	-0.5684587941033828	--
Cichorium intybus	Root				--
Cichorium endivia	Leaf	1.0	16.8	-0.2987881138159482	--
Cicer arietinum	Seed	8.0	10.0	-0.43669625458362493	USDA's Ag Handbook 8 and sequelae)
Chenopodium album	Seed		5.0	-0.8902206512542384	--
Chamissoa altissima	Leaf	2.0	23.0	-0.12816671369769786	Tramil
Chaenomeles lagenaria	Fruit		24.0	0.8702146359429493	--
Celosia cristata	Flower		9.0	-0.8371161987468383	--
Castanea sativa	Seed	2.0	5.0	-0.8902206512542384	--
Castanea mollissima	Seed	4.0	6.0	-0.7995157719201157	--
Castanea dentata	Seed	4.0	7.0	-0.7088108925859931	--
Cassia tora	Seed	8.0	10.0	-0.43669625458362493	--
Carya illinoensis	Seed		15.0	0.01682814208698858	--
Carya ovata	Shoot	1.25	45.0	1.002503241781006	--
Carya glabra	Shoot	0.9	55.0	1.568356435636701	--
Carya ovata	Seed		7.8	-0.6362469891186951	--
Carum carvi	Seed	9.0	18.0	0.2889427800893567	--
Carum carvi	Fruit	9.0	13.8	0.07635430476669072	--
Carthamus tinctorius	Flower	20.0	26.0	1.8649677339170079	--
Carica papaya	Fruit	0.1	5.0	-0.6085448044834153	--
Capsicum annuum	Fruit	0.5	20.0	0.5588968590110831	--
Capsicum frutescens	Fruit	2.0	14.0	0.0919201936132837	--
Canavalia ensiformis	Seed	7.0	8.0	-0.6181060132518703	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Camellia sinensis	Leaf		20.0	-0.2107254556903997	--
Cajanus cajan	Seed	10.0	12.0	-0.2552864959153795	--
Bupleurum chinense	Root	13.0	16.0	0.47378131766732856	--
Broussonetia papyrifera	Fruit		12.0	-0.06373869485264942	--
Brassica oleracea var. botrytis l.	Flower	0.3	8.0	-0.9960623124329469	--
Brassica rapa	Root	0.4	4.0	-0.8547042082668113	--
Brassica oleracea var. sabellica l.	Leaf	3.0	20.0	-0.2107254556903997	--
Brassica oleracea var. gemmifera	Leaf	1.0	5.0	-0.6235191656539089	USDA's Ag Handbook 8 and sequelae)
Brassica napus var. napobrassica	Root	0.2	4.0	-0.8547042082668113	ACTA AGRIC SCAND SUPPL 22: 1980
Brassica rapa	Seed	5.0	6.0	-0.7995157719201157	--
Brassica oleracea var. viridis l.	Leaf	2.0	43.0	0.42222489958698123	--
Brassica oleracea var. botrytis l.	Leaf	0.68	52.0	0.6699011255650867	--
Brassica juncea	Leaf	1.3	14.0	-0.3758429396758034	--
Brassica oleracea var. italica	Leaf	0.68	52.0	0.6699011255650867	--
Brassica pekinensis	Leaf	2.85	3.15	-0.6744303898827417	--
Brassica oleracea var. capitata l.	Leaf	0.3	87.0	1.6330864488132748	--
Brassica nigra	Leaf	0.58	11.2	-0.4528977655356585	USDA's Ag Handbook 8 and sequelae)
Boehmeria nivea	Plant		13.0	-0.11258700446602109	--
Bletilla striata	Tuber		12.0	0.02353755765789269	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.
Blechnum orientale	Rhizome		8.0	-0.5684587941033828	--
Beta vulgaris	Root	0.6	17.0	0.5844884448285068	--
Bertholletia excelsa	Seed		18.0	0.2889427800893567	USDA's Ag Handbook 8 and sequelae)
Belamcanda chinensis	Rhizome		6.0	-1.0163354197605934	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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Averrhoa carambola</i>	Fruit	1.0	15.0	0.16974963784625027	USDA's Ag Handbook 8 and sequelae)
<i>Avena sativa</i>	Plant		4.0	-1.1092588472799756	Jim Duke's personal files.*
<i>Avena sativa</i>	Seed	2.4	25.7	0.987370350962101	Jim Duke's personal files.*
<i>Atractylodes ovata</i>	Rhizome	8.0	18.0	1.6709243341826694	--
<i>Atractylodes lancea</i>	Rhizome		12.0	0.327294457211038	--
<i>Astragalus membranaceus</i>	Root	1.0	9.0	-0.30116857246091955	--
<i>Asparagus lucidus</i>	Root	4.0	5.0	-0.7439970811056329	--
<i>Asparagus officinalis</i>	Shoot	1.0	24.0	-0.185788465315953	--
<i>Asiasarum sieboldii</i>	Root	13.0	14.0	0.25236706334497194	--
<i>Asiasarum heterotropoides</i>	Root	13.0	14.0	0.25236706334497194	--
<i>Artocarpus heterophyllus</i>	Fruit	1.8	7.0	-0.45288591601748224	--
<i>Artocarpus altilis</i>	Fruit	0.8	7.5	-0.41397119390099896	--
<i>Artemisia herba-alba</i>	Plant	7.0	14.0	-0.0018456885978039082	--
<i>Artemisia dracunculus</i>	Plant		7.0	-0.7770348996753241	USDA's Ag Handbook 8 and sequelae)
<i>Artemisia capillaris</i>	Plant		8.0	-0.666293583807107	--
<i>Artemisia vulgaris</i>	Plant	18.0	20.0	0.6626022066114992	Chem. & Pharm. Bull. 38: 2205.
<i>Armoracia rusticana</i>	Root	1.0	9.0	-0.30116857246091955	--
<i>Aristolochia debilis</i>	Fruit		14.0	0.0919201936132837	--
<i>Arisaema consanguineum</i>	Rhizome		7.0	-0.7923971069319881	--
<i>Areca catechu</i>	Seed		15.0	0.01682814208698858	--
<i>Arctium lappa</i>	Root		29.0	1.9129739707626465	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.
<i>Arachis hypogaea</i>	Seed	8.6	11.0	-0.34599137524950224	--
<i>Apium graveolens</i>	Seed		14.0	-0.07387673724713412	USDA's Ag Handbook 8 and sequelae)
<i>Apium graveolens</i>	Root	0.7	11.0	-0.07975431813856294	ACTA AGRIC SCAND SUPPL 22: 1980
<i>Apium graveolens</i>	Pt	0.4	7.0	1.0000000000000007	USDA's Ag Handbook 8 and sequelae)

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Anthriscus cerefolium</i>	Leaf		4.4	-0.6400309140524493	--
<i>Annona muricata</i>	Fruit		1.6	-0.8731649148755015	--
<i>Angelica laxiflora</i>	Root		9.0	-0.30116857246091955	--
<i>Angelica dahurica</i>	Root		10.0	-0.19046144529974124	--
<i>Angelica sinensis</i>	Root		5.0	-0.7439970811056329	Suziki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
<i>Anethum graveolens</i>	Fruit		8.0	-0.3750564717845157	--
<i>Anethum graveolens</i>	Plant	1.7	17.0	0.33037825900684764	--
<i>Anethum graveolens</i>	Seed		8.0	-0.6181060132518703	USDA's Ag Handbook 8 and sequelae)
<i>Anemarrhena asphodeloides</i>	Rhizome	5.0	9.0	-0.34452048127477763	--
<i>Ananas comosus</i>	Fruit	1.0	8.8	-0.31279291639814205	USDA's Ag Handbook 8 and sequelae)
<i>Anacardium occidentale</i>	Seed	22.0	37.0	2.0123354874376878	--
<i>Amphicarpaea bracteata</i>	Shoot		20.0	-0.4121297428582309	--
<i>Amorphophallus campanulatus</i>	Root	1.8	8.0	-0.41187569962209786	--
<i>Amomum xanthioides</i>	Seed		8.0	-0.6181060132518703	--
<i>Amaranthus</i> sp.	Leaf	1.0	19.0	-0.23824503635463365	--
<i>Alocasia macrorrhiza</i>	Root	0.7	2.4	-1.0318356117246965	--
<i>Allium cepa</i>	Bulb	0.3	11.0	0.10619884881071792	--
<i>Allium schoenoprasum</i>	Leaf	1.0	24.0	-0.10064713303346391	Revised USDA data received 1993.
<i>Allium sativum</i> var. <i>sativum</i>	Bulb	1.4	9.7	-1.2743861857286207	--
<i>Allium cepa</i>	Seed		18.2	0.3070837559561808	--
<i>Alisma plantago-aquatica</i>	Rhizome	11.0	15.0	0.9991093956968536	--
<i>Albizia julibrissin</i>	Bark	5.0	6.0	-0.534522483824849	--
<i>Akebia quinata</i>	Stem		7.0	-0.659463666644081	--
<i>Actaea dahurica</i>	Rhizome		8.0	-0.5684587941033828	Suziki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Acorus calamus	Rhizome		4.0	-1.4642120454178038	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.
Aconitum carmichaelii	Tuber		12.0	0.02353755765789269	--
Achyranthes bidentata	Root	6.0	11.0	-0.07975431813856294	--
Acanthopanax gracilistylis	Root Bark		14.0	0.997054485501582	--
Abelmoschus esculentus	Fruit	1.0	9.0	-0.2972270275515491	USDA's Ag Handbook 8 and sequelae)
Abelmoschus manihot	Leaf	2.5	21.5	-0.1694460846940488	--