

List of Plants



Chemid

COPPER

Dosage

ADI=2-5 mg/man

Davies, S., and Stewart, A. 1990. Nutritional Medicine. Avon Books, New York. 509pp.

RDA=30-80 ug/kg

Martindale's 29th

PTD=100 mg/day

ADI?=<500 ug/kg

*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
Abelmoschus manihot	Leaf	2.5	21.5	-0.17	*
Abelmoschus esculentus	Fruit	1.0	9.0	-0.3	USDA's Ag Handbook 8 and sequelae)
Acanthopanax gracilistylis	Root Bark	--	14.0	1.0	*
Achyranthes bidentata	Root	6.0	11.0	-0.08	*
Aconitum carmichaelii	Tuber	--	12.0	0.02	*
Acorus calamus	Rhizome	--	4.0	-1.46	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.
Actaea dahurica	Rhizome	--	8.0	-0.57	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
Akebia quinata	Stem	--	7.0	-0.66	*
Albizia julibrissin	Bark	5.0	6.0	-0.53	*
Alisma plantago-aquatica	Rhizome	11.0	15.0	1.0	*
Allium cepa	Seed	--	18.2	0.31	*
Allium cepa	Bulb	0.3	11.0	0.11	*
Allium schoenoprasum	Leaf	1.0	24.0	-0.1	Revised USDA data received 1993.
Allium sativum var. sativum	Bulb	1.4	9.7	-1.27	*
Alocasia macrorrhiza	Root	0.7	2.4	-1.03	*
Amaranthus sp.	Leaf	1.0	19.0	-0.24	*
Amomum xanthioides	Seed	--	8.0	-0.62	*
Amorphophallus campanulatus	Root	1.8	8.0	-0.41	*
Amphicarpaea bracteata	Shoot	--	20.0	-0.41	*

Anacardium occidentale	Seed	22.0	37.0	2.01	*
Ananas comosus	Fruit	1.0	8.8	-0.31	USDA's Ag Handbook 8 and sequelae)
Anemarrhena asphodeloides	Rhizome	5.0	9.0	-0.34	*
Anethum graveolens	Seed	--	8.0	-0.62	USDA's Ag Handbook 8 and sequelae)
Anethum graveolens	Fruit	--	8.0	-0.38	*
Anethum graveolens	Plant	1.7	17.0	0.33	*
Angelica dahurica	Root	--	10.0	-0.19	*
Angelica sinensis	Root	--	5.0	-0.74	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
Angelica laxiflora	Root	--	9.0	-0.3	*
Annona muricata	Fruit	--	1.6	-0.87	*
Anthriscus cerefolium	Leaf	--	4.4	-0.64	*
Apium graveolens	Root	0.7	11.0	-0.08	ACTA AGRIC SCAND SUPPL 22: 1980
Apium graveolens	Pt	0.4	7.0	1.0	USDA's Ag Handbook 8 and sequelae)
Apium graveolens	Seed	--	14.0	-0.07	USDA's Ag Handbook 8 and sequelae)
Arachis hypogaea	Seed	8.6	11.0	-0.35	*
Arctium lappa	Root	--	29.0	1.91	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.
Areca catechu	Seed	--	15.0	0.02	*
Arisaema consanguineum	Rhizome	--	7.0	-0.79	*
Aristolochia debilis	Fruit	--	14.0	0.09	*
Armoracia rusticana	Root	1.0	9.0	-0.3	*
Artemisia dracunculus	Plant	--	7.0	-0.78	USDA's Ag Handbook 8 and sequelae)
Artemisia capillaris	Plant	--	8.0	-0.67	*
Artemisia vulgaris	Plant	18.0	20.0	0.66	Chem. & Pharm. Bull. 38: 2205.
Artemisia herba-alba	Plant	7.0	14.0	-0.0	*
Artocarpus altilis	Fruit	0.8	7.5	-0.41	*
Artocarpus heterophyllus	Fruit	1.8	7.0	-0.45	*
Asiasarum sieboldii	Root	13.0	14.0	0.25	*
Asiasarum heterotropoides	Root	13.0	14.0	0.25	*
Asparagus officinalis	Shoot	1.0	24.0	-0.19	*
Asparagus lucidus	Root	4.0	5.0	-0.74	*
Astragalus membranaceus	Root	1.0	9.0	-0.3	*
Atractylodes ovata	Rhizome	8.0	18.0	1.67	*

<i>Atractylodes lancea</i>	Rhizome	--	12.0	0.33	*
<i>Avena sativa</i>	Plant	--	4.0	-1.11	Jim Duke's personal files.*
<i>Avena sativa</i>	Seed	2.4	25.7	0.99	Jim Duke's personal files.*
<i>Averrhoa carambola</i>	Fruit	1.0	15.0	0.17	USDA's Ag Handbook 8 and sequelae)
<i>Belamcanda chinensis</i>	Rhizome	--	6.0	-1.02	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>Bertholletia excelsa</i>	Seed	--	18.0	0.29	USDA's Ag Handbook 8 and sequelae)
<i>Beta vulgaris</i>	Root	0.6	17.0	0.58	*
<i>Blechnum orientale</i>	Rhizome	--	8.0	-0.57	*
<i>Bletilla striata</i>	Tuber	--	12.0	0.02	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>Boehmeria nivea</i>	Plant	--	13.0	-0.11	*
<i>Brassica rapa</i>	Root	0.4	4.0	-0.85	*
<i>Brassica oleracea</i> var. <i>botrytis</i> l.	Flower	0.3	8.0	-1.0	*
<i>Brassica oleracea</i> var. <i>sabellica</i> l.	Leaf	3.0	20.0	-0.21	*
<i>Brassica oleracea</i> var. <i>gemmifera</i>	Leaf	1.0	5.0	-0.62	USDA's Ag Handbook 8 and sequelae)
<i>Brassica napus</i> var. <i>napobrassica</i>	Root	0.2	4.0	-0.85	ACTA AGRIC SCAND SUPPL 22: 1980
<i>Brassica rapa</i>	Seed	5.0	6.0	-0.8	*
<i>Brassica oleracea</i> var. <i>viridis</i> l.	Leaf	2.0	43.0	0.42	*
<i>Brassica oleracea</i> var. <i>botrytis</i> l.	Leaf	0.68	52.0	0.67	*
<i>Brassica juncea</i>	Leaf	1.3	14.0	-0.38	*
<i>Brassica pekinensis</i>	Leaf	2.85	3.15	-0.67	*
<i>Brassica oleracea</i> var. <i>capitata</i> l.	Leaf	0.3	87.0	1.63	*
<i>Brassica nigra</i>	Leaf	0.58	11.2	-0.45	USDA's Ag Handbook 8 and sequelae)
<i>Brassica oleracea</i> var. <i>italica</i>	Leaf	0.68	52.0	0.67	*
<i>Broussonetia papyrifera</i>	Fruit	--	12.0	-0.06	*
<i>Bupleurum chinense</i>	Root	13.0	16.0	0.47	*
<i>Cajanus cajan</i>	Seed	10.0	12.0	-0.26	*
<i>Camellia sinensis</i>	Leaf	--	20.0	-0.21	*
<i>Canavalia ensiformis</i>	Seed	7.0	8.0	-0.62	*
<i>Capsicum annum</i>	Fruit	0.5	20.0	0.56	*
<i>Capsicum frutescens</i>	Fruit	2.0	14.0	0.09	*
<i>Carica papaya</i>	Fruit	0.1	5.0	-0.61	*

<i>Carthamus tinctorius</i>	Flower	20.0	26.0	1.86	*
<i>Carum carvi</i>	Seed	9.0	18.0	0.29	*
<i>Carum carvi</i>	Fruit	9.0	13.8	0.08	*
<i>Carya illinoensis</i>	Seed	--	15.0	0.02	*
<i>Carya ovata</i>	Shoot	1.25	45.0	1.0	*
<i>Carya glabra</i>	Shoot	0.9	55.0	1.57	*
<i>Carya ovata</i>	Seed	--	7.8	-0.64	*
<i>Cassia tora</i>	Seed	8.0	10.0	-0.44	*
<i>Castanea sativa</i>	Seed	2.0	5.0	-0.89	*
<i>Castanea mollissima</i>	Seed	4.0	6.0	-0.8	*
<i>Castanea dentata</i>	Seed	4.0	7.0	-0.71	*
<i>Celosia cristata</i>	Flower	--	9.0	-0.84	*
<i>Chaenomeles lagenaria</i>	Fruit	--	24.0	0.87	*
<i>Chamissoa altissima</i>	Leaf	2.0	23.0	-0.13	Tramil
<i>Chenopodium album</i>	Seed	--	5.0	-0.89	*
<i>Cicer arietinum</i>	Seed	8.0	10.0	-0.44	USDA's Ag Handbook 8 and sequelae)
<i>Cichorium endivia</i>	Leaf	1.0	16.8	-0.3	*
<i>Cichorium intybus</i>	Root	--	--		*
<i>Cimicifuga dahurica</i>	Rhizome	--	8.0	-0.57	*
<i>Cinnamomum verum</i>	Leaf	--	10.9	-0.46	*
<i>Cinnamomum sieboldii</i>	Bark	--	7.0	0.07	*
<i>Cinnamomum verum</i>	Bark	4.9	9.0	1.27	*
<i>Cinnamomum burmannii</i>	Bark	--	5.0	-1.14	*
<i>Cinnamomum sieboldii</i>	Root Bark	--	9.0	-0.15	*
<i>Cinnamomum aromaticum</i>	Bark	2.0	10.0	1.87	*
<i>Cistanche salsa</i>	Plant	--	8.0	-0.67	*
<i>Citrullus lanatus</i>	Fruit	--	4.0	-0.69	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
<i>Citrus aurantiifolia</i>	Fruit	1.0	6.0	-0.53	USDA's Ag Handbook 8 and sequelae)
<i>Citrus reticulata</i>	Fruit	--	4.8	-0.62	*
<i>Citrus paradisi</i>	Fruit	--	7.7	-0.4	*
<i>Citrus medica</i>	Fruit	--	9.0	-0.3	*
<i>Citrus aurantium</i>	Fruit	4.0	10.0	-0.22	Suziki, 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	-0.57	*
<i>Cnidium officinale</i>	Rhizome	--	9.0	-0.34	*
<i>Cocos nucifera</i>	Seed	3.2	33.0	1.65	*
<i>Coix lacryma-jobi</i>	Seed	--	5.0	-0.89	Suziki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
<i>Colocasia esculenta</i>	Root	1.6	8.0	-0.41	*

Colocasia esculenta	Leaf	--	1.5	-0.72	*
Commiphora wightii	Inflorescence	--	--		Jim Duke's personal files.
Coptis spp	Rhizome	11.0	17.0	1.45	*
Coptis japonica	Rhizome	11.0	17.0	1.45	*
Coptis chinensis	Rhizome	11.0	17.0	1.45	*
Coriandrum sativum	Leaf	--	18.0	-0.27	USDA's Ag Handbook 8 and sequelae)
Coriandrum sativum	Fruit	10.0	13.0	0.01	*
Cornus officinalis	Fruit	5.0	6.0	-0.53	*
Corylus avellana	Seed	13.0	82.0	6.09	*
Crataegus laevigata	Flower	--	--		*
Crataegus cuneata	Fruit	--	8.0	-0.38	*
Crataegus laevigata	Fruit	--	--		*
Crocus sativus	Silk Stigma Style	--	3.0		USDA's Ag Handbook 8 and sequelae)
Cucumis sativus	Fruit	0.3	42.0	2.27	*
Cucumis melo	Fruit	0.4	7.7	-0.4	*
Cucurbita spp	Fruit	0.7	12.0	-0.06	*
Cucurbita pepo	Seed	14.0	25.0	0.92	*
Cucurbita maxima	Leaf	4.2	30.0	0.06	*
Cuminum cyminum	Seed	9.0	16.0	0.11	*
Cuminum cyminum	Fruit	9.0	16.0	0.25	*
Curcuma longa	Rhizome	6.0	17.0	1.45	*
Cynanchum atratum	Root	--	12.0	0.03	*
Cynara cardunculus	Flower	2.0	24.0	1.55	USDA's Ag Handbook 8 and sequelae)
Cyperus rotundus	Rhizome	--	10.0	-0.12	*
Cyrtosperma chamissonis	Root	0.9	4.4	-0.81	*
Daucus carota	Root	0.3	18.0	0.7	*
Dendrobium nobile	Stem	--	9.0	-0.64	*
Dioscorea alata	Root	0.5	10.7	-0.11	*
Dioscorea bulbifera	Rhizome	--	8.0	-0.57	*
Diospyros virginiana	Stem	0.2	108.0	0.2	*
Diospyros virginiana	Leaf	1.0	7.5	-0.55	*
Drynaria fortunei	Rhizome	--	10.0	-0.12	*
Elaeagnus umbellatus	Fruit	2.0	13.0	0.01	*
Elettaria cardamomum	Fruit	3.8	15.4	0.2	*
Eleutherococcus senticosus	Root	--	--		*

Eleutherococcus senticosus	Leaf	--	--		*
Eleutherococcus senticosus	Stem	--	--		*
Eleutherococcus senticosus	Flower	--	--		*
Ephedra spp	Plant	--	2.0	-1.33	*
Equisetum hyemale	Plant	--	4.0	-1.11	*
Eriobotrya japonica	Leaf	--	7.0	-0.57	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.
Eriocaulon sp	Leaf	--	9.0	-0.51	*
Erythroxyllum novogranatense	Leaf	2.5	2.7	-0.69	*
Erythroxyllum coca	Leaf	2.2	13.0	-0.4	*
Erythroxyllum novogranatense	Leaf	2.7	2.9	-0.68	*
Eucommia ulmoides	Bark	--	5.0	-1.14	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.
Euodia rutaecarpa	Fruit	--	16.0	0.25	*
Eupatorium odoratum	Leaf	--	35.0	0.2	Tramil
Fallopia japonica	Plant	9.0	10.0	-0.44	Chem. & Pharm. Bull. 38: 2205.
Ficus carica	Fruit	0.6	3.6	-0.72	USDA's Ag Handbook 8 and sequelae)
Firmiana simplex	Seed	--	15.0	0.02	*
Foeniculum vulgare	Fruit	8.0	24.0	0.87	*
Foeniculum vulgare	Seed	8.0	24.0	0.83	*
Forsythia suspensa	Fruit	--	19.0	0.48	*
Fragaria spp	Fruit	0.4	17.0	0.33	USDA's Ag Handbook 8 and sequelae)
Fraxinus rhynchophylla	Bark	--	6.0	-0.53	*
Fritillaria thunbergii	Bulb	--	12.0	1.17	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.
Gardenia jasminoides	Fruit	10.0	13.0	0.01	*
Gastrodia elata	Rhizome	--	4.0	-1.46	*
Genipa americana	Seed	--	--		*
Genipa americana	Fruit	--	1.0	-0.92	*
Gentiana scabra	Root	--	18.0	0.7	*
Geranium thunbergii	Plant	--	23.0	0.99	*
Ginkgo biloba	Seed	3.0	6.0	-0.8	USDA's Ag Handbook 8 and sequelae)
Glechoma hederacea	Plant	--	11.0	-0.33	Chem. & Pharm. Bull. 38: 2205.
Glehnia littoralis	Root	--	15.0	0.36	*
Glycine max	Seed	4.3	18.0	0.29	*
Glycyrrhiza uralensis	Root	13.0	14.0	0.25	*
Helianthus tuberosus	Plant	8.0	30.0	1.77	Bonness, M. S., Promising new drugs from plants: poisons that heal, Herbarist, #56, 1990, 59-68

<i>Helianthus annuus</i>	Seed	15.0	19.0	0.38	USDA's Ag Handbook 8 and sequelae)
<i>Hibiscus sabdariffa</i>	Flower	5.6	6.2	-1.28	*
<i>Hordeum vulgare</i>	Seed	1.0	20.0	0.47	Jim Duke's personal files.*
<i>Hordeum vulgare</i>	Sprout Seedling	--	8.0	-1.0	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>Houttuynia cordata</i>	Plant	--	26.0	1.33	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
<i>Hyoscyamus niger</i>	Seed	--	26.0	1.01	*
<i>Inula helenium</i>	Plant	--	--		*
<i>Ipomoea batatas</i>	Root	1.5	7.0	-0.52	*
<i>Ipomoea aquatica</i>	Leaf	2.6	19.0	-0.24	*
<i>Isatis tinctoria</i>	Root	--	10.0	-0.19	*
<i>Juglans regia</i>	Seed	3.0	15.0	0.02	*
<i>Juglans nigra</i>	Seed	10.0	20.0	0.47	*
<i>Juglans cinerea</i>	Seed	4.0	8.4	-0.58	*
<i>Juncus effusus</i>	Pith	5.0	8.0		*
<i>Juniperus virginiana</i>	Shoot	0.8	17.6	-0.55	*
<i>Jussiaea repens</i>	Plant	--	15.0	0.11	*
<i>Lablab purpureus</i>	Seed	9.0	16.0	0.11	*
<i>Lactuca sativa</i>	Leaf	0.36	29.0	0.04	*
<i>Laurus nobilis</i>	Leaf	--	4.0	-0.65	USDA's Ag Handbook 8 and sequelae)
<i>Lens culinaris</i>	Sprout Seedling	3.3	12.0	-0.37	USDA's Ag Handbook 8 and sequelae)
<i>Lens culinaris</i>	Seed	8.0	9.0	-0.53	USDA's Ag Handbook 8 and sequelae)
<i>Lepidium meyenii</i>	Root	--	60.0	5.34	Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
<i>Ligustrum japonicum</i>	Fruit	--	12.0	-0.06	*
<i>Ligustrum lucidum</i>	Fruit	--	12.0	-0.06	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>Linum usitatissimum</i>	Seed	17.0	23.0	0.74	Cunane, S. and Thompson, L. U., eds. 1995. Flaxseed in Human Nutrition. AOCS Press, Champaign IL. 384 pp.
<i>Liquidambar styraciflua</i>	Stem	0.6	360.0	2.36	*
<i>Liquidambar styraciflua</i>	Leaf	2.8	164.0	3.75	*
<i>Lonicera japonica</i>	Flower	--	13.0	-0.2	*
<i>Lophatherum gracile</i>	Plant	8.0	9.0	-0.56	*
<i>Lupinus albus</i>	Seed	10.0	12.0	-0.26	*
<i>Lycium chinense</i>	Root Bark	--	17.0	1.69	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>	Fruit	--	15.0	0.17	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>Lycopersicon esculentum</i>	Fruit	0.4	100.0	6.79	*
<i>Lycopodium clavatum</i>	Plant	--	8.0	-0.67	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>Lygodium japonicum</i>	Pollen Or Spore	--	13.0		*
<i>Macadamia spp</i>	Seed	2.0	3.0	-1.07	USDA's Ag Handbook 8 and sequelae)
<i>Magnolia kobus</i>	Flower	--	16.0	0.28	*

Magnolia fargesii	Flower	--	16.0	0.28	*
Magnolia officinalis	Bark	--	8.0	0.67	*
Magnolia denudata	Flower	--	16.0	0.28	*
Malus domestica	Fruit	0.24	4.0	-0.69	*
Mangifera indica	Fruit	1.1	16.6	0.29	*
Manihot esculenta	Root	1.0	3.8	-0.88	*
Mentha x piperita	Plant	3.0	15.0	0.11	*
Mentha arvensis var. piperascens	Plant	--	20.0	0.66	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
Mentha spicata	Plant	1.0	17.0	0.33	*
Momordica charantia	Fruit	--	30.0	1.34	=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
Morinda sp	Root	6.0	7.0	-0.52	*
Moringa oleifera	Leaf	1.0	4.0	-0.65	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Morus alba	Root Bark	--	6.0	-0.84	*
Murraya sp	Fruit	0.76	6.0	-0.53	*
Musa x paradisiaca	Fruit	0.76	6.0	-0.53	*
Myristica fragrans	Seed	10.0	21.0	0.56	*
Myristica fragrans	Aril	6.0	25.0		*
Nardostachys chinensis	Rhizome	--	10.0	-0.12	*
Nasturtium officinale	Plant	--	--		*
Nelumbo nucifera	Seed	--	17.0	0.2	*
Notopterygium incisum	Rhizome	--	7.0	-0.79	*
Nyssa sylvatica	Stem	0.3	31.0	-0.45	*
Nyssa sylvatica	Leaf	1.25	182.0	4.25	*
Ocimum basilicum	Leaf	--	14.0	-0.38	USDA's Ag Handbook 8 and sequelae)
Oenothera biennis	Seed	11.0	13.0	-0.16	*
Ophiopogon japonicus	Tuber	3.0	4.0	-1.11	*
Opuntia ficus-indica	Seed	--	3.4	-1.04	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
Origanum vulgare	Plant	--	9.0	-0.56	USDA's Ag Handbook 8 and sequelae)
Origanum majorana	Plant	--	11.0	-0.33	USDA's Ag Handbook 8 and sequelae)
Pachyrhizus erosus	Tuber	4.0	25.0	1.86	*
Paeonia lactiflora	Root	3.0	6.0	-0.63	*
Paeonia suffruticosa	Root Bark	5.0	6.0	-0.84	*
Paeonia moutan	Root Bark	5.0	6.0	-0.84	*

Panax ginseng	Fruit	--	--		*
Panax ginseng	Root	--	17.0	0.58	*
Panax ginseng	Flower	--	--		*
Panax ginseng	Stem	--	--		*
Panax quinquefolius	Plant	6.0	13.0	-0.11	*
Panax ginseng	Inflorescence	--	--		*
Panax ginseng	Leaf	--	--		*
Panax japonicus	Rhizome	--	6.0	-1.02	*
Papaver somniferum	Seed	16.0	23.0	0.74	*
Pastinaca sativa	Root	0.8	12.0	0.03	*
Peganum harmala	Plant	--	9.0	-0.56	*
Perilla frutescens	Plant	--	17.0	0.33	Suzuki, A., Morimoto, I., and Okitsu, T., Elution of Metals from Crude Drugs, Shoykugaku Zasshi 36(3):190-195.
Persea americana	Fruit	2.0	11.0	-0.14	*
Petasites japonicus	Plant	15.0	16.0	0.22	Chem. & Pharm. Bull. 38: 2205.
Petroselinum crispum	Plant	1.0	12.0	-0.22	*
Peucedanum decursivum	Plant	9.0	10.0	-0.44	*
Phaseolus lunatus	Seed	3.0	15.0	0.02	*
Phaseolus vulgaris	Seed	2.0	15.0	0.02	*
Phaseolus coccineus	Seed	--	0.7	-1.28	*
Phaseolus acutifolius	Seed	10.0	11.0	-0.35	*
Phaseolus vulgaris	Fruit	0.62	45.0	2.5	*
Phellodendron amurense	Bark	--	6.0	-0.53	*
Phoenix dactylifera	Seed	0.6	2.0	-1.16	Abstract (See species file)
Phoenix dactylifera	Fruit	2.0	4.0	-0.69	*
Phyllanthus emblica	Fruit	3.0	14.0	0.09	*
Physalis peruviana	Fruit	2.0	11.0	-0.14	*
Physalis ixocarpa	Fruit	1.0	16.0	0.25	*
Pimenta dioica	Bud	5.0	10.0		USDA's Ag Handbook 8 and sequelae)
Pimpinella anisum	Seed	--	9.0	-0.53	USDA's Ag Handbook 8 and sequelae)
Pinellia ternata	Tuber	2.0	4.0	-1.11	*
Pinus echinata	Shoot	0.8	2.1	-1.43	*
Pinus pinea	Seed	10.0	11.0	-0.35	USDA's Ag Handbook 8 and sequelae)
Pinus edulis	Seed	10.0	12.0	-0.26	*
Piper nigrum	Fruit	9.0	20.0	0.56	*
Pistacia vera	Seed	11.0	33.0	1.65	*
Pisum sativum	Seed	2.0	10.0	-0.44	*
Plantago asiatica	Plant	--	14.0	-0.0	*

Platycodon grandiflorum	Root	6.0	10.0	-0.19	*
Polygala tenuifolia	Root	8.0	9.0	-0.3	*
Polygonum multiflorum	Rhizome	--	5.0	-1.24	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.
Polystichum polyblepharum	Plant	--	10.0	-0.44	*
Portulaca oleracea	Herb	2.0	19.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Prunella vulgaris	Flower	--	8.0	-1.0	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.
Prunus persica	Fruit	0.3	30.0	1.34	*
Prunus armeniaca	Seed	1.0	16.0	0.11	*
Prunus serotina	Stem	1.3	378.0	2.51	*
Prunus dulcis	Seed	1.0	11.0	-0.35	*
Prunus serotina	Leaf	0.8	29.0	0.04	*
Prunus persica	Seed	--	10.0	-0.44	*
Prunus domestica	Fruit	0.33	34.0	1.65	*
Psidium guajava	Fruit	1.0	9.0	-0.3	USDA's Ag Handbook 8 and sequelae)
Psophocarpus tetragonolobus	Seed	28.0	33.0	1.65	*
Pueraria pseudohirsuta	Root	12.0	13.0	0.14	*
Pulsatilla chinensis	Root	--	9.0	-0.3	*
Punica granatum	Fruit	--	2.0	-0.84	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Pyrus communis	Fruit	0.45	11.1	-0.13	*
Quercus velutina	Stem	1.5	31.0	-0.45	*
Quercus rubra	Seed	--	7.0	-0.71	*
Quercus stellata	Stem	1.2	42.0	-0.36	*
Quercus phellos	Stem	1.0	29.0	-0.47	*
Quercus rubra	Stem	1.2	13.2	-0.61	*
Quercus alba	Stem	1.2	15.2	-0.59	*
Quisqualis indica	Fruit	--	13.0	0.01	*
Raphanus sativus	Root	0.3	8.0	-0.41	*
Raphanus sativus	Seed	--	6.0	-0.8	*
Rehmannia glutinosa	Root	--	4.0	-0.85	*
Rheum rhabarbarum	Pt	0.2	5.2	-1.0	*
Rheum palmatum	Rhizome	6.0	10.0	-0.12	*
Rhizophora mangle	Leaf	--	35.0	0.2	*
Rhus copallina	Stem	1.8	30.0	-0.46	*
Rhus copallina	Leaf	0.8	19.0	-0.24	*
Rhus glabra	Stem	0.6	20.0	-0.55	*
Ribes rubrum	Fruit	0.5	7.0	-0.45	*
Ribes nigrum	Fruit	0.6	7.0	-0.45	*
Ribes uva-crispa	Fruit	0.4	6.0	-0.53	*

Rosa canina	Fruit	1.8	36.0	1.8	*
Rosa laevigata	Fruit	8.0	9.0	-0.3	*
Rosmarinus officinalis	Leaf	3.0	19.0	-0.24	USDA's Ag Handbook 8 and sequelae)
Rosmarinus officinalis	Plant	5.0	6.0	-0.89	USDA's Ag Handbook 8 and sequelae)
Rubia cordifolia	Root	--	15.0	0.36	*
Rubus chingii	Fruit	--	12.0	-0.06	*
Rubus chamaemorus	Fruit	0.7	5.6	-0.56	*
Rubus idaeus	Fruit	0.7	6.0	-0.53	Revised USDA data received 1993.
Rumex acetosa	Leaf	3.0	30.0	0.06	*
Salvia officinalis	Leaf	7.0	8.0	-0.54	USDA's Ag Handbook 8 and sequelae)
Salvia miltiorrhiza	Root	--	8.0	-0.41	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.
Santalum acuminatum	Fruit	2.0	9.0	-0.3	*
Sassafras albidum	Stem	0.2	56.0	-0.24	*
Sassafras albidum	Leaf	1.6	102.0	2.05	*
Satureja montana	Leaf	8.0	9.0	-0.51	USDA's Ag Handbook 8 and sequelae)
Satureja hortensis	Leaf	8.0	9.0	-0.51	USDA's Ag Handbook 8 and sequelae)
Schisandra chinensis	Fruit	5.0	11.0	-0.14	*
Schizonepeta tenuifolia	Plant	--	23.0	0.99	*
Scrophularia buergeriana	Root	5.0	6.0	-0.63	*
Scutellaria baicalensis	Root	13.0	18.0	0.7	*
Secale cereale	Seed	4.0	5.0	-0.89	USDA's Ag Handbook 8 and sequelae)
Sechium edule	Leaf	1.8	10.0	-0.49	*
Senna obtusifolia	Seed	9.0	32.0	1.56	*
Senna occidentalis	Seed	--	15.0	0.02	*
Sesamum indicum	Plant	14.0	56.0	4.65	*
Siegesbeckia orientalis	Plant	9.0	10.0	-0.44	*
Simmondsia chinensis	Seed	--	10.0	-0.44	*
Sinapis alba	Seed	6.0	8.0	-0.62	*
Sinomenium acutum	Rhizome	--	16.0	1.22	*
Solanum tuberosum	Tuber	0.48	14.0	0.31	*
Solanum melongena	Fruit	0.6	20.0	0.56	*
Sophora angustifolia	Root	5.0	10.0	-0.19	*
Sophora subprostrata	Root	--	5.0	-0.74	*
Sorbus aucubaria	Fruit	0.8	4.0	-0.69	*
Spinacia oleracea	Plant	0.1	24.0	1.11	*

Spondias tuberosa	Fruit	--	0.63	-0.95	*
Spondias dulcis	Fruit	--	0.9	-0.93	*
Symphoricarpos orbiculatus	Stem	3.8	132.0	0.41	*
Syzygium cumini	Fruit	2.3	14.0	0.09	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	-0.3	*
Syzygium jambos	Fruit	0.1	0.6	-0.95	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
Syzygium aromaticum	Flower	3.0	9.0	-0.84	*
Tamarindus indica	Leaf	--	21.0	-0.18	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Taraxacum mongolicum	Plant	--	19.0	0.55	*
Taraxacum officinale	Root	3.0	28.0	1.8	*
Taraxacum officinale	Leaf	4.0	49.0	0.59	*
Tephrosia candida	Plant	--	11.2	-0.31	*
Tetrapanax papyrifera	Pith	--	8.0		*
Theobroma cacao	Seed	--	24.0	0.83	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Thymus vulgaris	Plant	8.0	9.0	-0.56	USDA's Ag Handbook 8 and sequelae)
Trachyspermum ammi	Fruit	--	9.1	-0.29	*
Tragopogon porrifolius	Root	--	1.0	-1.19	*
Trichosanthes anguina	Fruit	1.1	20.0	0.56	*
Trifolium pratense	Hay	7.0	18.0		*
Trigonella foenum-graecum	Seed	--	11.0	-0.35	USDA's Ag Handbook 8 and sequelae)
Trigonella foenum-graecum	Leaf	--	3.0	-0.68	*
Triticum aestivum	Plant	2.2	4.0	-1.11	*
Triticum aestivum	Seed	1.1	16.7	0.17	*
Tussilago farfara	Flower	--	20.0	0.91	*
Urtica dioica	Leaf	2.0	15.0	-0.35	*
Vaccinium myrtillus	Fruit	0.7	6.3	-0.51	ACTA AGRIC SCAND SUPPL 22: 1980
Vaccinium macrocarpon	Fruit	0.5	4.7	-0.63	USDA's Ag Handbook 8 and sequelae)
Vaccinium vitis-idaea	Fruit	0.7	5.2	-0.59	*
Vaccinium corymbosum	Fruit	0.5	4.0	-0.69	*
Valerianella radicata	Plant	11.1	11.3	-0.3	*
Valerianella locusta	Plant	13.0	13.2	-0.09	*

<i>Vicia faba</i>	Fruit	--	1.7	-0.87	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
<i>Vigna mungo</i>	Seed	7.2	8.0	-0.62	*
<i>Vigna unguiculata</i>	Seed	9.0	10.0	-0.44	USDA's Ag Handbook 8 and sequelae)
<i>Vigna radiata</i>	Sprout Seedling	1.0	23.0	1.37	USDA's Ag Handbook 8 and sequelae)
<i>Vigna angularis</i>	Seed	11.0	13.0	-0.16	*
<i>Vigna unguiculata</i>	Seed	1.3	12.0	-0.26	*
<i>Vigna radiata</i>	Seed	9.0	13.0	-0.16	USDA's Ag Handbook 8 and sequelae)
<i>Vigna aconitifolia</i>	Seed	5.0	9.0	-0.53	*
<i>Vitis vinifera</i>	Fruit	0.7	11.6	-0.09	*
<i>Xanthosoma sagittifolium</i>	Root	1.9	14.0	0.25	*
<i>Zea mays</i>	Fruit	--	20.0	0.56	*
<i>Zingiber officinale</i>	Root	3.0	16.0	0.47	*
<i>Zingiber officinale</i>	Rhizome	3.0	16.0	1.22	*
<i>Zizyphus jujuba</i>	Fruit	--	7.0	-0.45	*