

# C FRUCTOSE

Chemid

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ubiquitous

Yes

\*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
Acacia decurrens	Plant	--	--		--
Acacia nilotica	Plant	--	--		--
Aconitum napellus	Plant	--	--		--
Aconitum napellus	Root	--	--		--
Allium ampeloprasum	Plant	--	--		--
Allium cepa	Bulb	65600	162600		Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
Allium cepa	Leaf	--	--		Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
Allium sativum var. sativum	Bulb	--	14000	-1	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Allium sativum var. sativum	Leaf	--	--		Osman, S. A. 1980. Chemical and Biological Studies of Onion and Garlic in an Attempt to Isolate a Hypoclycaemic Extract. Abstr. 4th Asian Symp. Med. Plants Spices Bangkok, Thailand, September 15-19: 117.
Alocasia macrorrhiza	Plant	--	--		--
Aloe vera	Plant	--	--		Pakistan Encyclopedia Planta Medica. 1986.
Aloe vera	Leaf	--	--		Rowe, T. D., Parks, L. M. 1941. A Phytochemical Study of Aloe vera Leaf. J. Amer. Pharm. Ass. Sci. Ed., 30: 262-266.
Aloe vera	Stem Essent. Oil	--	--		Rowe, T. D., Parks, L. M. 1941. A Phytochemical Study of Aloe vera Leaf. J. Amer. Pharm. Ass. Sci. Ed., 30: 262-266.
Ananas comosus	Fruit	6000	23000	-0.5685085977706082	--
Anastatica hierochuntica	Fruit	--	--		--
Angelica archangelica	Plant	--	--		Pakistan Encyclopedia Planta Medica. 1986.
Angelica sinensis	Root	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
Annona muricata	Plant	--	--		--
Annona squamosa	Fruit	--	--		--
Anogeissus latifolia	Plant	--	--		--
Apium graveolens	Plant	--	--		--
Apium graveolens	Shoot	--	--		--
Arctium lappa	Root	--	--		Jim Duke's personal files.
Armoracia rusticana	Root	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Arnica montana	Rhizome	25000	25000	-0.662945600104255	--
Artemisia dracunculus	Leaf	--	--		--
Artemisia dracunculus	Root	--	--		--
Asimina triloba	Fruit	13000	119658	1.0109504148307933	--
Asparagus lucidus	Root	--	--		--
Asparagus officinalis	Rhizome	--	--		--
Avena sativa	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Avena sativa	Root	--	--		--
Berberis vulgaris	Plant	--	--		--
Borago officinalis	Leaf	--	--		Jim Duke's personal files.
Boswellia serrata	Resin, Exudate, Sap	--	--		Sabinsa: A series of well documented proprietary PR booklets, e.g. Sabinsa Corps. 1998. Bronchial Asthma - Its etiology and control with traditional herbal extracts. Sabinsa Corporation. Piscataway, NJ. 49 pp.
Carica papaya	Fruit	--	--		Jim Duke's personal files.
Carica papaya	Bark	--	--		Jim Duke's personal files.
Carica papaya	Leaf	--	--		Jim Duke's personal files.
Ceratonia siliqua	Fruit	50700	118300	0.9887597494010026	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Cichorium intybus	Root	45000	220000	1.999334825861607	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Citrullus colocynthis	Petiole	--	--		--
Citrus paradisi	Plant	12400	12400		--
Citrus sinensis	Fruit	23800	23800	-0.555436040816387	--
Cocos nucifera	Resin, Exudate, Sap	2100	2100		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Cocos nucifera	Juice	22200	22200		Jim Duke's personal files.
Cocos nucifera	Root	--	--		Jim Duke's personal files.
Coriandrum sativum	Fruit	--	--		--
Crocus sativus	Silk Stigma Style	--	--		--
Curcuma longa	Rhizome	--	120000	1.413312598024455	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
Cuscuta reflexa	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Cydonia oblonga	Fruit	--	--		--
Cyphomandra betacea	Fruit	--	--		--
Daucus carota	Root	--	--		--
Elytrigia repens	Rhizome	--	--		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
Ficus carica	Fruit	22950	22950	-0.569325632580247	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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Ginkgo biloba	Seed	--	--		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
Glycine max	Stem	--	--		--
Glycyrrhiza glabra	Root	--	--		--
Harpagophytum procumbens	Root	--	2700	-0.529803942677962	--
Harpagophytum procumbens	Tuber	--	--		--
Helianthus annuus	Flower	--	--		--
Hordeum vulgare	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Humulus lupulus	Fruit	15000	20000	-0.617530686348938	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Jatropha curcas	Seed	--	--		--
Juniperus communis	Fruit	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
Leonotis nepetaefolia	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Ligustrum japonicum	Fruit	--	--		--
Ligustrum lucidum	Fruit	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
Lycopersicon esculentum	Fruit	11700	11700	-0.753158464748984	--
Lycoris radiata	Bulb	21400	21400	1	--
Maclura pomifera	Shoot	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Malus domestica	Fruit	50100	60800	0.04916971831634761	--
Mangifera indica	Fruit	25700	48300	-0.15508898409336003	--
Manilkara zapota	Fruit	44700	71300	0.22074702834050203	Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.
Matricaria recutita	Plant	--	--		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
Medicago sativa	Plant	--	--		--
Melilotus indica	Plant	--	--		--
Morus alba	Leaf	--	--		--
Musa x paradisiaca	Fruit	--	35000	-0.3724202434572889	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.
Myrciaria dubia	Fruit	--	--		Jim Duke's personal files.
Nicotiana tabacum	Root	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Olea europaea	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Opuntia ficus-indica	Fruit	4500	44100	-0.22371990810302178	--
Panax ginseng	Root	200	6000	-0.4913954846191467	--
Panax ginseng	Tissue Culture	--	--		--
Panax ginseng	Leaf	--	6500	-1.351589051251948	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Panax ginseng	Stem	--	1800		--
Panax quinquefolius	Tissue Culture	--	--		--
Panax quinquefolius	Root	--	3400	-0.5216566939988194	--
Phoenix dactylifera	Fruit	308000	308000	4.088589817170726	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.
Phoenix dactylifera	Seed	15300	15300	1.4089399073526936	Abstract (See species file)
Physalis ixocarpa	Fruit	3420	18980	-0.6341981964655702	--
Phytolacca americana	Fruit	14000	14000	-0.7155748635055977	--
Pinus sylvestris	Bark	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Pinus sylvestris	Leaf	25000	25000	0.31537077862545454	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Piper methysticum	Root	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Plantago ovata	Seed	--	--		--
Polygonum hydropiper	Plant	--	--		--
Polypodium vulgare	Rhizome	21000	21000	-0.7503669979202007	--
Portulaca oleracea	Plant	--	--		--
Prunella vulgaris	Na	--	--		--
Prunus armeniaca	Fruit	14000	42000	-0.25803537010785266	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Prunus cerasus	Fruit	61000	72400	0.2387217941525563	--
Prunus domestica	Fruit	27000	61000	0.05243785755490293	USDA's Ag Handbook 8 and sequelae)
Psidium guajava	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Punica granatum	Fruit	--	--		--
Punica granatum	Fruit Juice	--	--		--
Rhamnus cathartica	Fruit	--	--		--
Rheum officinale	Root	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
Ribes nigrum	Fruit	36700	36700	-0.34464105992956867	--
Ribes rubrum	Fruit	19300	19300	-0.6289691736838817	--
Ribes uva-crispa	Fruit	41000	41000	-0.2743760663006293	--
Rosa canina	Fruit	--	--		Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
Rosa canina	Seed	--	--		--
Rosa spp	Fruit	--	--		--
Rubus chingii	Fruit	--	--		--
Rubus idaeus	Fruit	--	--		--
Sambucus nigra	Fruit	24100	154150	1.574573707912044	--
Santalum album	Fruit	--	--		--
Scrophularia buergeriana	Root	--	--		--



Plant	Part	Low PPM	High PPM	StdDev	Reference
Serenoa repens	Fruit	--	--		Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
Silybum marianum	Seed	--	--		--
Sinapis alba	Seed	--	--		--
Solanum nigrum	Fruit	75000	100000	0.6897250090731907	--
Solanum tuberosum	Plant	--	--		--
Spondias pinnata	Fruit	18000	18000	-0.6502120787344913	--
Symphytum officinale	Root	--	--		--
Tamarindus indica	Fruit	90000	120000	1.0165389329287229	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Taraxacum officinale	Root	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Terminalia bellirica	Seed	--	--		Singh, P., Sharma, S. 1997. Triterpenoid Constituents of the Seeds of Diospyros melanoxylon, Tecomella undulata and Terminalia bellirica. J. Indian Chem. Soc. 74 6: 504-505.
Terminalia bellirica	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Terminalia chebula	Fruit	10000	10000	-0.7809376482767042	--
Teucrium chamaedrys	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Teucrium montanum	Leaf	33000	33000	1.0362182726264935	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Teucrium polium	Plant	--	--		Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986.
Theobroma cacao	Plant	--	--		--
Theobroma cacao	Seed	--	2000	-0.5987994606248948	--
Trigonella foenum-graecum	Plant	--	--		--
Trigonella foenum-graecum	Seed	--	--		--
Triticum aestivum	Seed	600	600	-0.8101404467277988	--
Tussilago farfara	Leaf	--	--		--
Ulmus rubra	Bark	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Urtica dioica	Root	--	--		Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.
Vaccinium corymbosum	Fruit	--	--		--
Vaccinium myrtillus	Fruit	37800	38200		--
Vaccinium vitis-idaea	Fruit	50000	50000	-0.12730980056563979	--
Valeriana officinalis	Root	9000	9000	-0.4564787045656782	--
Vanilla planifolia	Fruit	7500	7500	-0.8217893887586457	--
Veratrum album	Root	--	--		--
Vetiveria zizanioides	Root	--	--		--

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Vinca minor	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Vitis vinifera	Fruit	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Zea mays	Fruit	1000	4000	-0.878981825433364	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Zingiber officinale	Rhizome	--	--		--
Zingiber officinale	Root	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Zizyphus jujuba	Fruit	--	--		--