

Dr. Duke's Phytochemical and Ethnobotanical Database

List of Plants for OXALIC-ACID

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|------------------------|-------------|----------------|-----------------|-----------------------|---|
| Abelmoschus esculentus | Fruit | 8 | 103 | -0.30066937175115394 | -- |
| Acacia nilotica | Plant | -- | -- | | -- |
| Aconitum napellus | Plant | -- | -- | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| Acorus calamus | Plant | -- | -- | | -- |
| Aframomum melegueta | Fruit | -- | -- | | Wealth of India. |
| Agave americana | Plant | -- | -- | | -- |
| Allium ampeloprasum | Plant | -- | -- | | -- |
| Allium cepa | Bulb | 10 | 10 | | -- |
| Allium cepa | Leaf | -- | -- | | Gad, S. S., Esmat El-Zalaki, M., Hohamed, M. S., Mohasseb, S. Z. 1982. Oxalate Content of Some Leafy Vegetables and Dry Legumes Consumed Widely in Egypt. Food Chem., 8(3): 169-177. (Coll. Agric. Alexandria Univ. Ale.) |
| Allium schoenoprasum | Plant | -- | -- | | Pakistan Encyclopedia Planta Medica. 1986. |
| Alocasia macrorrhiza | Plant | -- | -- | | -- |
| Anacardium occidentale | Seed | 3184 | 3184 | -0.025633807973314167 | -- |
| Ananas comosus | Fruit | 50 | 58 | -0.3031507791033899 | -- |
| Angelica archangelica | Plant | -- | -- | | Pakistan Encyclopedia Planta Medica. 1986. |
| Apium graveolens | Plant | -- | -- | | Pakistan Encyclopedia Planta Medica. 1986. |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|------------------------------------|-------|---------|----------|----------------------|--|
| Arctostaphylos uva-ursi | Leaf | -- | -- | | -- |
| Avena sativa | Plant | 400 | 400 | -0.5323291024119612 | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| Averrhoa carambola | Fruit | 50000 | 95800 | 4.976291503513891 | Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981. |
| Benincasa hispida | Fruit | 34 | 34 | -0.3044741963579158 | -- |
| Beta vulgaris | Root | 3000 | 15000 | -0.40279401570173323 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| Brassica juncea | Leaf | 1287 | 1287 | -0.43841505748050075 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| Brassica oleracea var. botrytis l. | Plant | -- | 68 | -0.5351320075910592 | -- |
| Brassica oleracea var. capitata l. | Leaf | 30 | 350 | -0.46587265245095044 | -- |
| Byrsonima crassifolia | Bark | 27300 | 27300 | | Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981. |
| Camellia sinensis | Leaf | 2192 | 10000 | -0.18309165835827215 | -- |
| Capparis spinosa | Plant | -- | -- | | -- |
| Capsella bursa-pastoris | Plant | -- | -- | | -- |
| Capsicum annum | Fruit | 257 | 1171 | -0.24177730392475322 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|----------------------|-------|---------|----------|----------------------|--|
| Capsicum frutescens | Fruit | -- | -- | | -- |
| Chenopodium album | Plant | 140000 | 300000 | 1.9970395471595714 | -- |
| Cicer arietinum | Seed | 24 | 24 | -0.6702186875144752 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| Cinnamomum verum | Bark | -- | -- | | -- |
| Citrus aurantiifolia | Fruit | -- | -- | | -- |
| Citrus paradisi | Plant | -- | -- | | -- |
| Citrus reticulata | Fruit | -- | -- | | -- |
| Citrus sinensis | Fruit | 87 | 87 | -0.3015516499208378 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| Coffea arabica | Fruit | 154 | 154 | -0.2978571100852865 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| Colocasia esculenta | Root | 1334 | 1334 | 0.19298878287100935 | -- |
| Coriandrum sativum | Leaf | 50 | 50 | -0.4746637714382876 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| Coriandrum sativum | Fruit | -- | 120 | -0.29973195119586477 | -- |
| Crataegus laevigata | Fruit | -- | -- | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| Crataegus laevigata | Bark | -- | -- | | -- |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|-------------------------|-------------|---------|----------|---------------------|---|
| Crataegus rhipidophylla | Fruit | -- | -- | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| Crataegus rhipidophylla | Bark | -- | -- | | -- |
| Cucurbita pepo | Juice | 400 | 400 | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| Daucus carota | Root | 56 | 56 | -0.6257320951676627 | -- |
| Ephedra sinica | Shoot | -- | -- | | Jim Duke's personal files. |
| Equisetum arvense | Plant | -- | -- | | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses |
| Eucalyptus citriodora | Bark | -- | -- | | -- |
| Fagopyrum esculentum | Leaf | 111000 | 111000 | 2.7765850673785675 | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| Ficus carica | Fruit | -- | -- | | -- |
| Ficus carica | Fruit Juice | -- | -- | | Shiraishi, S. C., Kawakami, K., Widodo, S. E., Shiraishi, M., Kitazaki, M. 1996. Organic acid profiles in the juice of fig fruits. Journal of the Faculty of Agriculture Kyushu University, 41(1-2): 29-33. |
| Glycine max | Root | -- | -- | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| Glycine max | Seed | 770 | 770 | -0.5180477001291252 | -- |
| Glycyrrhiza glabra | Plant | -- | -- | | -- |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|---------------------------|---------------|---------|----------|-----------------------|--|
| Haematoxylum campechianum | Wood | -- | -- | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Hibiscus sabdariffa | Flower | -- | -- | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| Ipomoea batatas | Root | 1000 | 1000 | -0.020980523283072386 | -- |
| Juniperus communis | Leaf | -- | -- | | -- |
| Kalanchoe daegrिमontiana | Plant | -- | -- | | -- |
| Kalanchoe pinnata | Plant | -- | -- | | Tramil |
| Lactuca sativa | Leaf | 110 | 136 | -0.4721436506619176 | -- |
| Lactuca scariola | Latex Exudate | -- | -- | | -- |
| Lactuca virosa | Latex Exudate | 10000 | 10000 | | -- |
| Ledum palustre | Plant | -- | -- | | -- |
| Lens culinaris | Seed | 212 | 212 | -0.6318699668329124 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| Lupinus albus | Seed | -- | -- | | -- |
| Lycopersicon esculentum | Fruit | 36 | 263 | -0.29184659005431485 | -- |
| Malus domestica | Plant | -- | -- | | -- |
| Mangifera indica | Fruit | 300 | 300 | -0.28980632178692084 | -- |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|---------------------|-------|---------|----------|----------------------|---|
| Manihot esculenta | Root | 171 | 171 | -0.5520600286774848 | -- |
| Medicago sativa | Plant | -- | -- | | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp. |
| Mentha spicata | Leaf | 38 | 38 | -0.4750154161977811 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| Momordica charantia | Fruit | 5 | 5 | -0.30607332554046784 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| Moringa oleifera | Fruit | 1010 | 1010 | -0.25065522800719753 | -- |
| Moringa oleifera | Leaf | 1010 | 1010 | -0.4465321906788087 | -- |
| Morus alba | Leaf | -- | -- | | -- |
| Murraya koenigii | Leaf | -- | 1320 | -0.43744803439189367 | =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 |
| Murraya sp | Fruit | 22 | 5240 | -0.01740293689701496 | -- |
| Musa x paradisiaca | Leaf | -- | -- | | 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. |
| Musa x paradisiaca | Fruit | 22 | 5240 | -0.01740293689701496 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| Nicotiana tabacum | Leaf | -- | -- | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|-----------------------------|-------|---------|----------|----------------------|--|
| Opuntia ficus-indica | Fruit | -- | -- | | -- |
| Oryza sativa | Seed | 46 | 46 | -0.665731071264505 | -- |
| Papaver somniferum | Seed | 16200 | 16200 | 2.629403151554455 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Parthenocissus quinquefolia | Fruit | -- | 20000 | 0.796498674636388 | -- |
| Pastinaca sativa | Root | 205 | 205 | -0.5302787220629975 | -- |
| Phaseolus vulgaris | Fruit | 312 | 312 | -0.2891446131596579 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| Phoenix dactylifera | Seed | -- | -- | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Physalis ixocarpa | Fruit | 109 | 536 | -0.27679271878408324 | -- |
| Piper betel | Leaf | -- | -- | | -- |
| Piper methysticum | Root | -- | -- | | Madaus, G. 1976. Lehrbuch der Biologischen Hilfsmittel. Vol., 1-3. 2862 pp. (+ 144 p. index). Georg Olms Verlag, Hildesheim. Reprint of 1938 Madaus. |
| Piper nigrum | Fruit | 4000 | 34000 | 1.5684920731098055 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Pisum sativum | Fruit | 60 | 60 | -0.30304049433217944 | -- |
| Plantago psyllium | Seed | -- | -- | | -- |
| Plectranthus amboinicus | Leaf | -- | -- | | 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 |
|---------------------------|---------|---------|----------|----------------------|--|
| Polygonum hydropiperoides | Plant | -- | -- | | -- |
| Portulaca oleracea | Plant | 1679 | 16790 | -0.3939567654076973 | -- |
| Prunus dulcis | Seed | 4073 | 4073 | 0.1557066850368414 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| Prunus persica | Hh | -- | 10 | | -- |
| Prunus persica | Plant | 10 | 10 | -0.5356216717488533 | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| Psidium guajava | Fruit | 140 | 140 | -0.2986291034837599 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Punica granatum | Fruit | 140 | 140 | -0.2986291034837599 | -- |
| Raphanus sativus | Root | 92 | 92 | -0.6026695352229113 | -- |
| Rheum officinale | Rhizome | -- | -- | | -- |
| Rheum rhabarbarum | Leaf | 3000 | 11000 | -0.15378792840048167 | -- |
| Rheum rhabarbarum | Pt | 4400 | 13360 | | -- |
| Ribes nigrum | Fruit | 200 | 200 | -0.29532056034744525 | -- |
| Ribes rubrum | Fruit | -- | -- | | -- |
| Ribes uva-crispa | Fruit | -- | -- | | -- |
| Rubus fruticosus | Leaf | -- | -- | | -- |
| Rumex acetosa | Leaf | 3000 | 3000 | -0.3882177680628056 | -- |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|--------------------|-------|---------|----------|----------------------|--|
| Rumex acetosella | Plant | -- | -- | | -- |
| Rumex crispus | Root | -- | -- | | Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp. |
| Rumex crispus | Leaf | 5170 | 6970 | -0.27188196013037735 | -- |
| Salvia officinalis | Plant | -- | -- | | -- |
| Sambucus nigra | Fruit | -- | 410 | -0.283740659370344 | -- |
| Sechium edule | Fruit | 340 | 340 | -0.28760062636271105 | -- |
| Sesamum indicum | Seed | -- | -- | | -- |
| Sinapis alba | Seed | -- | -- | | -- |
| Solanum melongena | Fruit | 291 | 291 | -0.290302603257368 | -- |
| Solanum tuberosum | Tuber | 150 | 150 | | -- |
| Sophora pachycarpa | Leaf | -- | -- | | -- |
| Spinacia oleracea | Leaf | 5000 | 93900 | 2.2754912851003497 | -- |
| Stellaria media | Shoot | 2950 | 4330 | | -- |
| Syzygium cumini | Fruit | -- | -- | | Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981. |
| Tamarindus indica | Fruit | -- | -- | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Tamarindus indica | Leaf | 1000 | 1960 | -0.4186936472189077 | -- |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|---------------------------|-------|---------|----------|----------------------|--|
| Taraxacum officinale | Leaf | -- | 1700 | -0.42631261700793327 | Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin. |
| Terminalia arjuna | Bark | -- | -- | | Bharadwaj, K., Chandra, V. 1983. Comparative Incidence of Calcium Oxalate as a Source of Oxalic Acid in Barks of Seven Species of Terminalia. Biol. Mem. 8 1/2: 54-62. |
| Terminalia bellirica | Bark | -- | -- | | Bharadwaj, K., Chandra, V. 1983. Comparative Incidence of Calcium Oxalate as a Source of Oxalic Acid in Barks of Seven Species of Terminalia. Biol. Mem. 8 1/2: 54-62. |
| Terminalia bellirica | Fruit | -- | -- | | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Terminalia catappa | Bark | -- | -- | | Bharadwaj, K., Chandra, V. 1983. Comparative Incidence of Calcium Oxalate as a Source of Oxalic Acid in Barks of Seven Species of Terminalia. Biol. Mem. 8 1/2: 54-62. |
| Terminalia chebula | Bark | -- | -- | | Bharadwaj, K., Chandra, V. 1983. Comparative Incidence of Calcium Oxalate as a Source of Oxalic Acid in Barks of Seven Species of Terminalia. Biol. Mem. 8 1/2: 54-62. |
| Theobroma cacao | Seed | 1520 | 5000 | 0.3447985152060364 | -- |
| Trichosanthes anguina | Fruit | 10 | 340 | -0.28760062636271105 | -- |
| Trifolium pratense | Plant | -- | -- | | -- |
| Trigonella foenum-graecum | Leaf | -- | -- | | -- |
| Triticum aestivum | Fruit | 111 | 111 | -0.300228232666312 | -- |
| Tropaeolum majus | Shoot | -- | -- | | -- |

| Plant | Part | Low PPM | High PPM | StdDev | Reference |
|-----------------------|-----------|---------|----------|---------------------|--|
| Tulipa gesneriana | Bulb | -- | -- | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| Urtica dioica | Plant | -- | -- | | -- |
| Vaccinium macrocarpon | Fruit | -- | -- | | Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705. |
| Vaccinium myrtillus | Leaf | -- | -- | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| Vanilla planifolia | Fruit | -- | -- | | List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979. |
| Viburnum prunifolium | Root Bark | -- | -- | | Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980. |
| Vicia faba | Fruit | 10 | 70 | -0.302489070476127 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Vigna mungo | Seed | 278 | 278 | -0.6184071180830021 | -- |
| Vitis vinifera | Fruit | 34 | 34 | -0.3044741963579158 | -- |
| Zea mays | Fruit | 99 | 99 | -0.3008899412935749 | Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp. |
| Zingiber officinale | Rhizome | -- | 5000 | | -- |
| Zingiber officinale | Root | -- | 5000 | 2.5415261372448525 | -- |