

Dr. Duke's Phytochemical and Ethnobotanical Databases

List of Plants for SULFUR

| Plant                       | Part  | Low PPM | High PPM | StdDev               | Reference                                                                                                                                                                           |
|-----------------------------|-------|---------|----------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lepidium sativum            | Seed  | 9000.0  | 9545.0   | 3.9651698056626064   | --                                                                                                                                                                                  |
| Petasites japonicus         | Plant | 6500.0  | 7300.0   | 1.4633479486367877   | Chem. & Pharm. Bull. 38: 2205.                                                                                                                                                      |
| Peucedanum decursivum       | Plant | 3700.0  | 5200.0   | 0.5703755127795649   | --                                                                                                                                                                                  |
| Glechoma hederacea          | Plant | 3100.0  | 3400.0   | -0.19502943224091188 | Chem. & Pharm. Bull. 38: 2205.                                                                                                                                                      |
| Morus alba                  | Leaf  | 3000.0  | 5600.0   | 0.177059964805523    | --                                                                                                                                                                                  |
| Boehmeria nivea             | Plant | 3000.0  | 3700.0   | -0.06746194140416575 | --                                                                                                                                                                                  |
| Taraxacum officinale        | Plant | 2600.0  | 3300.0   | -0.2375519291864939  | Chem. & Pharm. Bull. 38: 2205.                                                                                                                                                      |
| Helianthus annuus           | Seed  | 2574.0  | 4880.0   | 1.3264976870978602   | --                                                                                                                                                                                  |
| Allium sativum var. sativum | Bulb  | 2300.0  | 10570.0  | 1.0                  | LAWSON in Koch, H. P. and Lawson, L. D., eds. 1996. Garlic-The Science and therapeutic application of Allium sativum L. and related species. Williams & Wilkins, Baltimore. 329 pp. |
| Fallopia japonica           | Plant | 2300.0  | 2600.0   | -0.5352094078055681  | Chem. & Pharm. Bull. 38: 2205.                                                                                                                                                      |
| Artemisia vulgaris          | Plant | 2300.0  | 2800.0   | -0.4501644139144041  | Chem. & Pharm. Bull. 38: 2205.                                                                                                                                                      |
| Vigna radiata               | Seed  | 1880.0  | 2378.0   | -0.08871295398445395 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                                                          |
| Vigna aconitifolia          | Seed  | 1800.0  | 2018.0   | -0.29234038435600995 | --                                                                                                                                                                                  |
| Armoracia rusticana         | Root  | 1800.0  | 10000.0  | 2.1484129636070275   | ACTA AGRIC SCAND SUPPL 22: 1980                                                                                                                                                     |
| Piper nigrum                | Fruit | 1750.0  | 5760.0   | 3.0243404637527247   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.                                                          |
| Vigna mungo                 | Seed  | 1740.0  | 1953.0   | -0.3291064481730964  | --                                                                                                                                                                                  |
| Polystichum polyblepharum   | Plant | 1700.0  | 2100.0   | -0.7478218925334784  | --                                                                                                                                                                                  |
| Avena sativa                | Seed  | 1500.0  | 3100.0   | 0.31967317026072223  | Jim Duke's personal files.*                                                                                                                                                         |
| Corylus avellana            | Seed  | 1500.0  | 2070.0   | -0.26292753330234075 | --                                                                                                                                                                                  |
| Secale cereale              | Seed  | 1460.0  | 1640.0   | -0.5061491862461437  | USDA's Ag Handbook 8 and sequelae)                                                                                                                                                  |
| Anethum graveolens          | Plant | 1400.0  | 11175.0  | 3.111094705278092    | ACTA AGRIC SCAND SUPPL 22: 1980                                                                                                                                                     |
| Triticum aestivum           | Plant | 1300.0  | 2900.0   | -0.40764191696882207 | --                                                                                                                                                                                  |

| Plant                                            | Part  | Low PPM | High PPM | StdDev               | Reference                                                                                                                  |
|--------------------------------------------------|-------|---------|----------|----------------------|----------------------------------------------------------------------------------------------------------------------------|
| <i>Brassica pekinensis</i>                       | Shoot | 1216.0  | 1365.0   | -0.3064973270128203  | --                                                                                                                         |
| <i>Brassica oleracea</i> var. <i>italica</i>     | Leaf  | 1200.0  | 11800.0  | 1.6302603378370644   | ACTA AGRIC SCAND SUPPL 22: 1980                                                                                            |
| <i>Brassica oleracea</i> var. <i>botrytis</i> l. | Leaf  | 1200.0  | 11800.0  | 1.6302603378370644   | --                                                                                                                         |
| <i>Urtica dioica</i>                             | Leaf  | 1200.0  | 6665.0   | 0.4266822869472313   | --                                                                                                                         |
| <i>Triticum aestivum</i>                         | Seed  | 1200.0  | 3200.0   | 0.3762363453639322   | --                                                                                                                         |
| <i>Averrhoa carambola</i>                        | Fruit | 1000.0  | 1300.0   | -0.07973966243440339 | Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.     |
| <i>Avena sativa</i>                              | Plant | 800.0   | 4100.0   | 0.1026280463781624   | Jim Duke's personal files.*                                                                                                |
| <i>Cichorium endivia</i>                         | Shoot | 740.0   | 912.0    | -0.6814960822776618  | --                                                                                                                         |
| <i>Portulaca oleracea</i>                        | Plant | 630.0   | 6300.0   | 1.0381229791809672   | --                                                                                                                         |
| <i>Asimina triloba</i>                           | Fruit | 620.0   | 3333.0   | 1.3351919287177112   | --                                                                                                                         |
| <i>Linum usitatissimum</i>                       | Seed  | 608.0   | 4200.0   | 0.9418680963960322   | --                                                                                                                         |
| <i>Allium ampeloprasum</i>                       | Leaf  | 600.0   | 700.0    | -0.9714371042032756  | --                                                                                                                         |
| <i>Vicia faba</i>                                | Fruit | 530.0   | 3630.0   | 1.5418986097664955   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| <i>Brassica rapa</i>                             | Root  | 510.0   | 5100.0   | 0.70172285513554     | --                                                                                                                         |
| <i>Phoenix dactylifera</i>                       | Fruit | 510.0   | 590.0    | -0.5738869470964798  | --                                                                                                                         |
| <i>Cocos nucifera</i>                            | Seed  | 440.0   | 1370.0   | -0.6588697590248107  | --                                                                                                                         |
| <i>Physalis peruviana</i>                        | Fruit | 430.0   | 2515.0   | 0.7658785782197134   | --                                                                                                                         |
| <i>Pisum sativum</i>                             | Seed  | 410.0   | 2290.0   | -0.13848854807527874 | --                                                                                                                         |
| <i>Rosa canina</i>                               | Fruit | 400.0   | 1000.0   | -0.28853428975640755 | ACTA AGRIC SCAND SUPPL 22: 1980                                                                                            |
| <i>Brassica oleracea</i> var. <i>capitata</i> l. | Leaf  | 385.0   | 8750.0   | 0.9153795091683222   | --                                                                                                                         |
| <i>Petroselinum crispum</i>                      | Plant | 380.0   | 4700.0   | 0.35776302805165466  | --                                                                                                                         |
| <i>Raphanus sativus</i>                          | Root  | 350.0   | 6140.0   | 1.0087754495866312   | --                                                                                                                         |
| <i>Trichosanthes anguina</i>                     | Fruit | 350.0   | 6480.0   | 3.5254475693255345   | --                                                                                                                         |
| <i>Brassica napus</i> var. <i>napobrassica</i>   | Root  | 350.0   | 5000.0   | 0.6721985672075504   | ACTA AGRIC SCAND SUPPL 22: 1980                                                                                            |

| Plant                  | Part  | Low PPM | High PPM | StdDev                | Reference                                                                                                                  |
|------------------------|-------|---------|----------|-----------------------|----------------------------------------------------------------------------------------------------------------------------|
| Carica papaya          | Fruit | 300.0   | 900.0    | -0.35813249886374227  | --                                                                                                                         |
| Physalis ixocarpa      | Fruit | 270.0   | 3250.0   | 1.2774254151586235    | --                                                                                                                         |
| Spinacia oleracea      | Plant | 270.0   | 5700.0   | 0.782987997507475     | --                                                                                                                         |
| Pastinaca sativa       | Root  | 270.0   | 11050.0  | 2.4584179868509173    | --                                                                                                                         |
| Annona muricata        | Fruit | 210.0   | 2700.0   | 0.8946352650682826    | --                                                                                                                         |
| Ribes nigrum           | Fruit | 200.0   | 1385.0   | -0.02058118469316889  | ACTA AGRIC SCAND SUPPL 22: 1980                                                                                            |
| Rubus chamaemorus      | Fruit | 190.0   | 1185.0   | -0.15977760290783832  | --                                                                                                                         |
| Capsicum annuum        | Fruit | 190.0   | 2440.0   | 0.7136799213892123    | --                                                                                                                         |
| Phyllanthus emblica    | Fruit | 166.0   | 820.0    | -0.41381106614961     | --                                                                                                                         |
| Murraya sp             | Fruit | 150.0   | 450.0    | -0.6713244398467485   | --                                                                                                                         |
| Genipa americana       | Fruit | 140.0   | 2000.0   | 0.4074478013169396    | --                                                                                                                         |
| Abelmoschus esculentus | Fruit | 140.0   | 1400.0   | -0.010141453327068681 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Cucumis sativus        | Fruit | 140.0   | 5250.0   | 2.669389597305318     | --                                                                                                                         |
| Cucumis melo           | Fruit | 139.0   | 198.0    | -0.846711926797232    | --                                                                                                                         |
| Vaccinium myrtillus    | Fruit | 130.0   | 1075.0   | -0.2363356329259065   | ACTA AGRIC SCAND SUPPL 22: 1980                                                                                            |
| Vaccinium vitis-idaea  | Fruit | 130.0   | 1075.0   | -0.2363356329259065   | --                                                                                                                         |
| Ribes rubrum           | Fruit | 130.0   | 1782.0   | 0.2557237054629499    | --                                                                                                                         |
| Syzygium cumini        | Fruit | 130.0   | 800.0    | -0.42773070797107693  | Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.         |
| Syzygium jambos        | Fruit | 130.0   | 840.0    | -0.39989142432814306  | Morton, J.F., Major Medicinal Plants. 1977. Atlas of Medicinal Plants of Middle America. Bahamas to Yucatan. 1981.         |
| Ipomoea batatas        | Root  | 130.0   | 610.0    | -0.6239176728311907   | --                                                                                                                         |
| Citrus reticulata      | Fruit | 130.0   | 1000.0   | -0.28853428975640755  | ACTA AGRIC SCAND SUPPL 22: 1980                                                                                            |
| Beta vulgaris          | Root  | 130.0   | 2000.0   | -0.21353007063213605  | ACTA AGRIC SCAND SUPPL 22: 1980                                                                                            |
| Solanum melongena      | Fruit | 126.0   | 152.0    | -0.8787271029866058   | --                                                                                                                         |

| Plant                              | Part  | Low PPM | High PPM | StdDev               | Reference                       |
|------------------------------------|-------|---------|----------|----------------------|---------------------------------|
| <i>Artocarpus altilis</i>          | Fruit | 120.0   | 530.0    | -0.6156458725608807  | --                              |
| <i>Alocasia macrorrhiza</i>        | Root  | 119.0   | 400.0    | -0.6859186774799687  | --                              |
| <i>Amorphophallus campanulatus</i> | Root  | 118.0   | 530.0    | -0.6475371031735823  | --                              |
| <i>Lycopersicon esculentum</i>     | Fruit | 107.0   | 2330.0   | 0.6371218913711442   | --                              |
| <i>Apium graveolens</i>            | Root  | 100.0   | 1000.0   | -0.5087729499120315  | ACTA AGRIC SCAND SUPPL 22: 1980 |
| <i>Dioscorea alata</i>             | Root  | 98.0    | 990.0    | -0.5117253787048304  | --                              |
| <i>Ribes uva-crispa</i>            | Fruit | 96.0    | 1113.0   | -0.2098883134651193  | --                              |
| <i>Colocasia esculenta</i>         | Root  | 85.0    | 565.0    | -0.6372036023987859  | --                              |
| <i>Allium cepa</i>                 | Bulb  | 80.0    | 4075.0   | -1.0                 | --                              |
| <i>Xanthosoma sagittifolium</i>    | Root  | 79.0    | 580.0    | -0.6327749592095876  | --                              |
| <i>Fragaria</i> spp                | Fruit | 77.0    | 1270.0   | -0.1006191251666038  | ACTA AGRIC SCAND SUPPL 22: 1980 |
| <i>Mangifera indica</i>            | Fruit | 70.0    | 615.0    | -0.5564873948196462  | --                              |
| <i>Ananas comosus</i>              | Fruit | 70.0    | 200.0    | -0.8453199626150852  | --                              |
| <i>Vaccinium macrocarpon</i>       | Fruit | 65.0    | 500.0    | -0.6365253352930811  | ACTA AGRIC SCAND SUPPL 22: 1980 |
| <i>Rheum rhabarbarum</i>           | Pt    | 62.0    | 1240.0   |                      | --                              |
| <i>Asparagus officinalis</i>       | Shoot | 56.0    | 864.0    | -0.721231049722943   | --                              |
| <i>Manihot esculenta</i>           | Root  | 54.0    | 250.0    | -0.730205109371953   | --                              |
| <i>Phaseolus vulgaris</i>          | Fruit | 54.0    | 875.0    | -0.3755320511405759  | --                              |
| <i>Phaseolus vulgaris</i>          | Seed  | 54.0    | 137.0    | -1.35629370804739    | --                              |
| <i>Daucus carota</i>               | Root  | 52.0    | 1635.0   | -0.32129372156929786 | --                              |
| <i>Citrus sinensis</i>             | Fruit | 46.0    | 1000.0   | -0.28853428975640755 | --                              |
| <i>Spondias dulcis</i>             | Fruit | 36.0    | 180.0    | -0.8592396044365521  | --                              |
| <i>Lactuca sativa</i>              | Shoot | 29.0    | 3800.0   | 1.7092244590134251   | --                              |
| <i>Cyrtosperma chamissonis</i>     | Root  | 26.0    | 195.0    | -0.7464434677323473  | --                              |
| <i>Solanum tuberosum</i>           | Tuber | 16.0    | 1900.0   |                      | --                              |
| <i>Vitis vinifera</i>              | Fruit | 7.0     | 888.0    | -0.3664842839566224  | --                              |
| <i>Citrus paradisi</i>             | Fruit | 7.0     | 2090.0   | 0.4700861895135408   | --                              |

| Plant                  | Part  | Low PPM | High PPM | StdDev               | Reference                                                                                                                  |
|------------------------|-------|---------|----------|----------------------|----------------------------------------------------------------------------------------------------------------------------|
| Zea mays               | Fruit | 6.0     | 1140.0   | -0.19109679700613894 | --                                                                                                                         |
| Prunus domestica       | Fruit | 4.0     | 400.0    | -0.7061235444004158  | --                                                                                                                         |
| Prunus persica         | Fruit | 3.0     | 700.0    | -0.49732891707841165 | --                                                                                                                         |
| Pyrus communis         | Fruit | 3.0     | 300.0    | -0.7757217535077505  | --                                                                                                                         |
| Malus domestica        | Fruit | 1.65    | 23.0     | -0.9685087927350676  | --                                                                                                                         |
| Panax quinquefolius    | Plant |         | 1500.0   | -1.0029568742069708  | --                                                                                                                         |
| Camellia sinensis      | Leaf  |         | 880.0    | -0.9292474159539728  | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Mangifera indica       | Seed  |         | 2300.0   | -0.13283223056495774 | --                                                                                                                         |
| Carya ovata            | Seed  |         | 2180.0   | -0.20070804068880974 | --                                                                                                                         |
| Panicum maximum        | Leaf  |         | 1800.0   | -0.7136112315686473  | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Genipa americana       | Seed  |         | 1300.0   | -0.6984639815970577  | --                                                                                                                         |
| Juglans cinerea        | Seed  |         | 2870.0   | 0.18957786752333922  | --                                                                                                                         |
| Spondias tuberosa      | Fruit |         | 120.0    | -0.900998529900953   | --                                                                                                                         |
| Musa x paradisiaca     | Fruit |         | 100.0    | -0.91491817172242    | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Glycine max            | Seed  |         | 4066.0   | 0.8660734417577307   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Cinnamomum aromaticum  | Bark  |         | 1200.0   | -0.12803687993289598 | --                                                                                                                         |
| Anacardium occidentale | Seed  |         | 4800.0   | 1.2812471470152922   | --                                                                                                                         |
| Cinnamomum burmannii   | Bark  |         | 1000.0   | -0.6401843996644798  | --                                                                                                                         |
| Pinus sylvestris       | Leaf  |         |          |                      | --                                                                                                                         |
| Cinnamomum verum       | Bark  |         | 1900.0   | 1.6644794391276476   | --                                                                                                                         |
| Pistacia vera          | Seed  |         | 2870.0   | 0.18957786752333922  | --                                                                                                                         |
| Tragopogon porrifolius | Root  |         | 250.0    | -0.730205109371953   | --                                                                                                                         |
| Pisum sativum          | Plant |         | 2300.0   | -0.6627768986423143  | --                                                                                                                         |

| Plant                            | Part  | Low PPM | High PPM | StdDev                | Reference                                                                                                                  |
|----------------------------------|-------|---------|----------|-----------------------|----------------------------------------------------------------------------------------------------------------------------|
| <i>Stellaria media</i>           | Plant |         | 3828.0   | -0.013033145313820741 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| <i>Juglans nigra</i>             | Seed  |         | 2652.0   | 0.06627014579834144   | Furr, A.K., et al. 1979                                                                                                    |
| <i>Quercus rubra</i>             | Seed  |         | 1160.0   | -0.7776524267415517   | --                                                                                                                         |
| <i>Rhizophora mangle</i>         | Leaf  |         | 7900.0   | 0.7161504257688367    | --                                                                                                                         |
| <i>Hordeum vulgare</i>           | Seed  |         | 200.0    | -1.3206589077323676   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| <i>Oryza sativa</i>              | Plant |         | 1000.0   | -1.215569358934881    | --                                                                                                                         |
| <i>Larrea tridentata</i>         | Plant |         | 1600.0   | -0.9604343772613888   | --                                                                                                                         |
| <i>Hibiscus sabdariffa</i>       | Seed  |         | 4000.0   | 0.8287417461896122    | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses                                                  |
| <i>Prunus dulcis</i>             | Seed  |         | 3420.0   | 0.5006753305909942    | --                                                                                                                         |
| <i>Psidium guajava</i>           | Fruit |         | 140.0    | -0.8870788880794861   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| <i>Moringa oleifera</i>          | Fruit |         | 1370.0   | -0.031020916059269096 | --                                                                                                                         |
| <i>Moringa oleifera</i>          | Leaf  |         | 1370.0   | -0.8143977090530928   | --                                                                                                                         |
| <i>Colocasia esculenta</i>       | Leaf  |         | 240.0    | -1.0792551963959383   | --                                                                                                                         |
| <i>Trigonella foenum-graecum</i> | Plant |         | 1670.0   | -0.9306686293994814   | --                                                                                                                         |
| <i>Tamarindus indica</i>         | Leaf  |         | 630.0    | -0.9878442051891155   | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| <i>Arachis hypogaea</i>          | Seed  |         | 2100.0   | -0.24595858077137775  | --                                                                                                                         |
| <i>Punica granatum</i>           | Fruit |         | 120.0    | -0.900998529900953    | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| <i>Carya illinoensis</i>         | Seed  |         | 800.0    | -0.9812798571131076   | --                                                                                                                         |
| <i>Juglans regia</i>             | Seed  |         | 1040.0   | -0.8455282368654037   | CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses                                                  |
| <i>Azadirachta indica</i>        | Seed  |         | 1921.0   | -0.3472066642061236   | --                                                                                                                         |

| Plant                | Part      | Low PPM | High PPM | StdDev              | Reference                                                                                                                  |
|----------------------|-----------|---------|----------|---------------------|----------------------------------------------------------------------------------------------------------------------------|
| Lens culinaris       | Seed      |         | 1220.0   | -0.7437145216796257 | ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes. |
| Spondias dulcis      | Seed      |         | 900.0    | -0.9247166820098977 | --                                                                                                                         |
| Cinnamomum sieboldii | Bark      |         | 900.0    | -0.8962581595302718 | --                                                                                                                         |
| Cinnamomum sieboldii | Root Bark |         | 800.0    |                     | --                                                                                                                         |