

# A Radioprotective

\*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	# Chemicals	Total PPM
Acacia farnesiana Opopanax; Cassie; Huisache; Sweet Acacia; Popinac	1	
Acacia decurrens Green Wattle	1	
Acacia catechu Catechu; Black Cutch	1	
Achillea millefolium Milfoil; Yarrow	2	
Acinos suaveolens	1	
Adiantum capillus-veneris Maidenhair Fern	1	
Aesculus hippocastanum Horse Chestnut	1	
Agastache rugosa	1	
Agathosma betulina Mountain Buchu; Buchu; Honey Buchu	2	1000.0
Agrimonia eupatoria Sticklewort; Agrimony	2	
Alisma plantago-aquatica Tse-Hsieh; Mud Plantain; Ze-Xie; Water Plantain	1	
Alliaria petiolata Garlic Mustard	1	1920.0
Allium sativum var. sativum Garlic	3	198.0
Allium cepa Onion; Shallot	1	
Allium ampeloprasum Kurrat; Elephant Garlic	1	
Aloysia citrodora Lemon Verbena	1	
Amaranthus spinosus Spiny pigweed	1	
Amaranthus sp. Pigweed	1	
Ammi visnaga Visnaga	1	
Anastatica hierochuntica Jericho Rose	1	
Anethum graveolens Garden Dill; Dill	4	
Anisochilus carnosus Panjiri-ka Pat	1	
Apium graveolens Celery	2	340.0
Arachis hypogaea Groundnut; Peanut	1	
Araucaria bidwillii Monkey puzzle	2	
Artemisia vulgaris Mugwort	1	
Artemisia herba-alba Desert Wormwood	1	
Artemisia dracunculus Tarragon	3	1120.0
Artemisia annua Annual Mugwort (GRIN); Sweet Wormwood (GRIN); Annual Wormwood (GRIN); Qinghao; Sweet Annie	1	
Artemisia absinthium Wormwood	1	
Artemisia abrotanum Southernwood	1	
Aspalathus linearis Rooibos; Kaffree Tea; Red Bush Tea	1	
Asparagus officinalis Asparagus	1	
Azadirachta indica Neem	1	
Ballota nigra Black Horehound	2	
Barosma betulina Buchu	1	1000.0
Berberis vulgaris Barberry	1	
Borago officinalis Borage; Beeplant; Talewort; Beebread	1	14000.0
Brassica oleracea var. italica Asparagus Broccoli; Calabrese; Purple Cauliflower; Broccoli; Winter Broccoli; Cape Broccoli; Sprouting Broccoli; Heading Broccoli	1	

Plant	# Chemicals	Total PPM
<i>Brassica oleracea</i> var. <i>gemmifera</i> Brussels-Sprouts; Brussel-Sprout	1	40.0
<i>Brassica oleracea</i> var. <i>capitata</i> I. Cabbage; Red Cabbage; White Cabbage	1	
<i>Brassica oleracea</i> var. <i>botrytis</i> I. Cauliflower	1	
<i>Caesalpinia pulcherrima</i> Bird Of Paradise	1	
<i>Calendula officinalis</i> Pot-Marigold; Calendula	1	
<i>Calotropis</i> sp. Giant Milkweed	1	
<i>Camellia sinensis</i> Tea	3	2780.0
<i>Capparis spinosa</i> Caperbush; Caper	1	
<i>Capsella bursa-pastoris</i> Shepherd's Purse	3	
<i>Capsicum frutescens</i> Hot Pepper; Red Chili; Cayenne; Spur Pepper; Chili; Tabasco	1	
<i>Capsicum annuum</i> Cherry Pepper; Bell Pepper; Green Pepper; Sweet Pepper; Paprika; Cone Pepper	1	
<i>Centaurea cyanus</i> Cornflower; Bachelor's Button	1	
<i>Centaurea calcitrapa</i> Star-Thistle	2	
<i>Chamaemelum nobile</i> Perennial Camomile; Roman Camomile; Garden Camomile	2	
<i>Chelidonium majus</i> Celandine	1	
<i>Cichorium intybus</i> Witloof; Succory; Chicory	2	
<i>Citrullus lanatus</i> Watermelon	1	
<i>Citrus sinensis</i> Orange	2	30200.0
<i>Citrus reticulata</i> Tangerine; Mandarin	1	
<i>Citrus limon</i> Lemon	3	14.0
<i>Cnicus benedictus</i> Blessed Thistle	1	
<i>Colchicum autumnale</i> Meadow Saffron; Autumn Crocus	1	
<i>Collinsonia canadensis</i> Stone Root	1	
<i>Conium maculatum</i> Spotted Hemlock; Fool's Parsley; Poison Hemlock; Hemlock; Carrot Fern; Spotted Parsley	1	80000.0
<i>Convallaria majalis</i> Lily-Of-The-Valley	1	
<i>Conyza canadensis</i> Butterweed; Horseweed; Hogweed	1	
<i>Coriandrum sativum</i> Cilantro; Chinese Parsley; Coriander	2	
<i>Cornus mas</i> Sorbet; Cornelian Cherry	1	
<i>Costus speciosus</i> Crepe Ginger; Cane Reed; Wild Ginger	1	
<i>Crataegus rhipidophylla</i> Hawthorn	2	
<i>Crataegus pentagyna</i> Hawthorn	1	
<i>Crataegus monogyna</i> Hawthorn; English Hawthorn	3	
<i>Crataegus laevigata</i> English Hawthorn; Whitethorn; Hawthorn; Woodland Hawthorn	2	
<i>Cucumis melo</i> Muskmelon; Nutmeg Melon; Melon; Persian Melon; Netted Melon; Cantaloupe	2	
<i>Curcuma zedoaria</i> Zedoary; Shoti	1	2000.0
<i>Curcuma xanthorrhiza</i> Javan Turmeric; Temu Lawak	1	20000.0
<i>Curcuma longa</i> Indian Saffron; Turmeric	1	94888.0
<i>Cymbopogon citratus</i> West Indian Lemongrass; Lemongrass	1	
<i>Cynara cardunculus</i> Artichoke	2	
<i>Daphne genkwa</i> Yuan Hua	1	
<i>Datura stramonium</i> Jimsonweed	1	
<i>Daucus carota</i> Carrot	2	

Plant	# Chemicals	Total PPM
<i>Dictamnus albus</i> Akgiritotu; Dittany; Gas Plant; Gazelotu; Burning Bush	2	
<i>Digitalis purpurea</i> Purple Foxglove	1	
<i>Dodonaea viscosa</i> Hopwood	1	
<i>Echinacea</i> spp Coneflower; Echinacea	2	
<i>Echinacea purpurea</i> Echinacea; Purple-Coneflower; Eastern Purple-Coneflower	1	
<i>Echinacea angustifolia</i> Narrow Leaf Echinacea; Echinacea; Narrow Leaf Purple-Coneflower	1	
<i>Ephedra sinica</i> Chinese Ephedra; Ma Huang	1	
<i>Ephedra nevadensis</i> Mormon Tea; Brigham Tea	1	
<i>Equisetum arvense</i> Field Horsetail; Horsetail	1	
<i>Eriobotrya japonica</i> Loquat	1	
<i>Eriodictyon californicum</i> California Yerba Santa; Holy Herb; Mountain Balm; Yerba Santa; Bear's Weed; Gum Bush; Tarweed; Consumptive's Weed; Hierba Santa	1	
<i>Erythroxylum novogranatense</i> Coca	1	10000.0
<i>Erythroxylum coca</i> Coca	1	10000.0
<i>Eschscholzia californica</i> California Poppy	1	55000.0
<i>Eucalyptus macrorrhuncha</i>	1	
<i>Eucalyptus globulus</i> Eucalypt; Tasmanian Bluegum; Blue Gum	3	
<i>Eucalyptus citriodora</i> Lemon Eucalyptus; Lemon-Scented Gum; Citron-Scented Gum; Spotted Gum	1	
<i>Eupatorium perfoliatum</i> Boneset	1	
<i>Euphorbia pulcherrima</i> Poinsettia	1	
<i>Euphrasia officinalis</i> Eyebright	2	
<i>Fagopyrum esculentum</i> Buckwheat	1	468900.0
<i>Fallopia japonica</i> Mexican Bamboo; Japanese Knotweed; Hu-Zhang; Giant Knotweed	1	
<i>Ferula assa-foetida</i> Stinkasant (Ger.); Assa-foetida; Asafetida (Sp.); Devil's Dung; test; Asafoetida; Asafetida	1	
<i>Ficus carica</i> Higuera Comun (Sp.); Feigenbaum (Ger.); Figueira (Port.); Figuier Commun (Fr.); Echte Feige (Ger.); Fico (Ital.); Fig; Higo (Sp.)	1	15300.0
<i>Filipendula ulmaria</i> Queen Of The Meadow; Meadowsweet	1	
<i>Foeniculum vulgare</i> Fennel	1	
<i>Forsythia suspensa</i> Lien-Chiao; Lian-Jiao	1	2000.0
<i>Galega officinalis</i> Galega; Goat's Rue	1	
<i>Ginkgo biloba</i> Ginkgo; Maidenhair Tree	2	
<i>Glechoma hederacea</i> Alehoof	3	50000.0
<i>Glycine max</i> Soybean	1	
<i>Glycyrrhiza uralensis</i> Kan-Tsao; Gan-Cao; Chinese Licorice	1	
<i>Glycyrrhiza glabra</i> Licorice-Root; Licorice; Commom Licorice; Smooth Licorice	1	
<i>Gossypium</i> sp Cotton	1	
<i>Hedeoma pulegioides</i> American Pennyroyal	1	20000.0
<i>Hedera helix</i> Ivy	1	
<i>Helianthemum glomeratum</i>	1	
<i>Helianthus annuus</i> Girasol; Sunflower	1	
<i>Hemidesmus indicus</i> Indian Sarsaparilla	1	
<i>Houttuynia cordata</i> Yu Xing Cao; Dokudami; Fishwort	1	
<i>Humulus lupulus</i> Hops	1	4000.0

Plant	# Chemicals	Total PPM
Hydnocarpus wightiana Hindi Chaulmoogra	1	
Hydrangea paniculata Peegee	1	82000.0
Hydrangea arborescens Hydrangea; Smooth Hydrangea	1	
Hyoscyamus niger Henbane	1	
Hypericum perforatum Common St. Johnswort; Klamath Weed; Goatweed; St. John's-wort; Hypericum	1	
Hyssopus officinalis Hyssop	2	10000.0
Ilex paraguariensis Paraguay Tea; South American Holly; Mate	1	
Illicium verum anis de China (Sp.); Chinese Star Anise; Star Anise; Sternanis (Ger.); anis estrellado (Sp.); Chinesischer Sternanis (Ger.)	1	
Jatropha gossypifolia Spanish Physic Nut	2	
Juniperus communis Common Juniper; Juniper	2	
Laurus nobilis Bayleaf; Bay Laurel; Laurel; Bay; Sweet Bay; Grecian Laurel	1	
Lavandula x intermedia Dutch Lavender; Lavandin	1	10000.0
Lavandula latifolia Spike Lavender; Aspic; Broad-Leaved Lavender	1	14000.0
Lavandula angustifolia English Lavender	1	24000.0
Leonurus cardiaca Motherwort	1	
Ligustrum lucidum Glossy Privet; Privet; Chinese Privet; Ligustri Fructus; White Waxtree	1	
Linum usitatissimum Flax; Linseed	2	
Lycium chinense Chinese Matrimony Vine; Gou Qi (Chin.); Spina Santa Cinese (Ital.); Kaukichai (Malays.); Wolfberry; Lyciet de Chine (Fr.); Daun Koki (Indones.); Kuko (Jap.); Chinese Boxthorn; Chinese Wolfberry; Chinesischer Bocksborn (Ger.)	1	
Lycopersicon esculentum Tomato	1	48000.0
Lycopodium clavatum Antler Herb; Clubmoss	1	
Lycopus virginicus Bugle	1	
Lycopus europeus European Bugle	1	74000.0
Maclura pomifera Osage-Orange; Hedge Apple	2	
Magnolia kobus Xin-Yi; Hsin-I	1	1000.0
Magnolia denudata Xin-Yi; Hsin-I	1	
Malus domestica Apple	2	
Marrubium vulgare Horehound; White Horehound	2	
Matricaria recutita Wild Camomile; Annual Camomile; German Camomile	2	
Medicago sativa Lucerne; Alfalfa	1	
Melia azedarach Chinaberry	1	
Melissa officinalis Melissa; Lemonbalm; Bee Balm; Balm	1	55400.0
Mentha x rotundifolia Applemint	2	71200.0
Mentha x piperita Peppermint	2	63600.0
Mentha spicata Hortela da Folha Miuda; Spearmint	3	110400.0
Mentha pulegium European Pennyroyal	2	60000.0
Mentha longifolia Biblical Mint	2	
Mentha arvensis var. piperascens Cornmint; Field Mint; Japanese Mint	1	56456.0
Mentha aquatica Water Mint	2	54000.0
Menyanthes trifoliata Marsh Trefoil; Buckbean; Bogbean; Bog Myrtle; Water Trefoil; Marsh Clover	1	
Mercurialis annua Annual Mercury	1	
Momordica charantia Bitter Melon; Sorosi	1	

Plant	# Chemicals	Total PPM
<i>Monarda fistulosa</i> Wild Bergamot	1	40000.0
<i>Monarda didyma</i> Oswego Tea; Beebalm	1	36000.0
<i>Morinda citrifolia</i> Indian Mulberry; Noni	1	
<i>Morus alba</i> Sang-Pai-Pi; White Mulberry	1	120000.0
<i>Murraya</i> sp None	1	
<i>Musa x paradisiaca</i> Plantain; Banana	2	
<i>Nasturtium officinale</i> Watercress; Berro	1	
<i>Nelumbo nucifera</i> Water Lotus	1	
<i>Nepeta cataria</i> Catnip	1	4000.0
<i>Nerium oleander</i> Oleander	1	
<i>Nicotiana tabacum</i> Tobacco	1	20000.0
<i>Nicotiana glauca</i> Tree Tobacco	1	42000.0
<i>Nigella sativa</i> Nutmeg-Flower; Black Cumin; Black Caraway; Roman Coriander; Fennel-Flower	1	
<i>Ocimum tenuiflorum</i> Anise-Scented Basil	4	
<i>Ocimum basilicum</i> Cuban Basil; Basil; Sweet Basil	4	20300.0
<i>Olea europaea</i> Olive	2	
<i>Ononis spinosa</i> Spiny Restharrow; Restharrow; Hauhechel (Ger.)	1	
<i>Opuntia ficus-indica</i> Indian Fig; Nopalito; Nopal; Prickly Pear	2	14210.0
<i>Origanum vulgare</i> Oregano; Common Turkish Oregano; Wild Marjoram; European Oregano; Wild Oregano; Pot Marjoram	3	183180.0
<i>Origanum majorana</i> Sweet Marjoram; Marjoram	2	66000.0
<i>Passiflora incarnata</i> Passionflower; Manzana de Mayo; Mayapple	4	
<i>Pastinaca sativa</i> Parsnip	1	
<i>Perilla frutescens</i> Perilla	2	
<i>Petroselinum crispum</i> Parsley	3	60000.0
<i>Phaseolus vulgaris</i> Pop Bean; Haricot Bean; Navy Bean; Garden Bean; Flageolet Bean; Haricot; Black Bean; Kidney Bean; Haricot Vert; French Bean; Wax Bean; Popping Bean; String Bean; Dwarf Bean; Snap Bean; Green Bean; Field Bean	2	
<i>Phaseolus aborigineus</i>	1	
<i>Phoenix dactylifera</i> Date Palm	2	
<i>Phyllanthus niruri</i> Seed On The Leaf	1	
<i>Phyllanthus emblica</i> Emblic; Myrobalan	1	
<i>Phyllanthus amarus</i>	1	
<i>Physalis peruviana</i> Ground Cherry; Cape Gooseberry	1	
<i>Pimpinella anisum</i> Anise; Sweet Cumin	2	
<i>Pinus strobus</i> White Pine; Eastern White Pine	1	
<i>Piper nigrum</i> Pepper; White Pepper; Black Pepper	1	
<i>Pisum sativum</i> Pea	1	
<i>Plantago major</i> Common Plantain	1	
<i>Plumeria acutifolia</i> Frangipani	1	
<i>Pogostemon cablin</i> Patchouli	1	
<i>Polygonum hydropiper</i> Common Smartweed	1	60000.0
<i>Polygonum aviculare</i> Prostrate Knotweed	1	
<i>Populus tacamahacca</i> Balm Of Gilead	1	

Plant	# Chemicals	Total PPM
<i>Populus nigra</i> Black Poplar	1	
<i>Prosopis juliflora</i> Mesquite	1	
<i>Prunella vulgaris</i> Heal-All; Self-Heal	2	122000.0
<i>Prunus spinosa</i> Blackthorn; Sloe	1	
<i>Prunus cerasus</i> Sour Cherry	3	
<i>Prunus armeniaca</i> Apricot	1	35400.0
<i>Psoralea esculenta</i> Indian Turnip; Prairie Turnip; Breadroot; Indian Bread-Root; Prairie Apple; Prairie Potato	1	
<i>Pteridium aquilinum</i> Bracken; Bracken Fern	1	
<i>Pueraria montana</i> Kudzu; Kudsu	2	
<i>Punica granatum</i> Zakuro (Jap.); Romanzeiro (Port.); Granatapfelbaum (Ger.); Granatapfelstrauch (Ger.); Pomegranate; Granado (Sp.); Mangrano (Sp.); Grenadier (Fr.)	2	
<i>Raphanus sativus</i> Radish	1	
<i>Rheum rhabarbarum</i> Rhubarb	1	12000.0
<i>Rheum officinale</i> Chinese Rhubarb	1	
<i>Ribes nigrum</i> Black Currant	1	
<i>Ricinus communis</i> Castorbean	1	4000.0
<i>Rosa multiflora</i> Multiflora Rose	1	
<i>Rosmarinus officinalis</i> Rosemary	4	161914.0
<i>Rubus idaeus</i> Red Raspberry; Raspberry	1	
<i>Rumex crispus</i> Lengua De Vaca; Curly Dock; Sour Dock; Yellow Dock	1	
<i>Rumex acetosella</i> Sheep Sorrel	1	10600.0
<i>Rumex acetosa</i> Garden Sorrel	1	25600.0
<i>Ruscus aculeatus</i> Box-Holly; Butcher's Broom	1	800.0
<i>Ruta graveolens</i> Rue	1	40000.0
<i>Salix alba</i> White Willow	2	
<i>Salvia sclarea</i> Clary Sage	1	68000.0
<i>Salvia officinalis</i> Sage	2	92200.0
<i>Sambucus nigra</i> European Elder; Elder; European Elderberry; Black Elder; European Alder	1	18400.0
<i>Sambucus canadensis</i> Elderberry; American Elderberry; Sweet Elder; American Elder	1	73000.0
<i>Sarracenia</i> sp. Pitcher-Plant	1	
<i>Satureja montana</i> Winter Savory; Savory	2	24000.0
<i>Satureja hortensis</i> Summer Savory	1	52000.0
<i>Scopolia carniolica</i> Scopolia	1	
<i>Scrophularia scorodonia</i>	1	
<i>Scutellaria lateriflora</i> Mad-Dog Skullcap; Scullcap	1	
<i>Scutellaria galericulata</i> Marsh Skullcap	2	
<i>Scutellaria baicalensis</i> Baikal Skullcap; Chinese Skullcap; Huang Qin	2	
<i>Selenicereus grandiflorus</i> Queen-of-the-Night; Night-Blooming Cereus	1	
<i>Senna obtusifolia</i> Sicklepod	1	7180.0
<i>Serenoa repens</i> Saw Palmetto; Scrub-Palmetto	2	
<i>Silybum marianum</i> Milk Thistle; Lady's Thistle	2	
<i>Smilax china</i> China Root	1	
<i>Solanum tuberosum</i> Potato	1	

Plant	# Chemicals	Total PPM
<i>Solidago virgaurea</i> European Goldenrod; Woundwort	1	
<i>Solidago gigantea</i> Early Goldenrod	1	
<i>Sophora japonica</i> Japanese Pagoda Tree	1	868000.0
<i>Sorbus aucubaria</i> Rowan Berry	1	
<i>Spartium junceum</i> Weaver's Broom; Genet; Spanish Broom	1	
<i>Spinacia oleracea</i> Spinach	2	340.0
<i>Stachys officinalis</i> Bishop's-Wort; Purple Betony; Betony; Wood Betony	2	
<i>Stellaria media</i> Chickweed; Common Chickweed	3	
<i>Stevia rebaudiana</i> Ca-A-E; Stevia; Sweet Leaf of Paraguay	1	
<i>Symphytum officinale</i> Comfrey	1	10000.0
<i>Syringa vulgaris</i> Lilac	1	
<i>Tanacetum vulgare</i> Tansy	1	
<i>Tephrosia purpurea</i> Wild Indigo; Purple Tephrosia	1	
<i>Terminalia chebula</i> Chebulic Myrobalan; Ink Nut; Black Myrobalan; Myrobalan	1	
<i>Teucrium scorodonia</i> Germander; Wood Germander	2	
<i>Teucrium scordium</i> Water Germander	1	
<i>Teucrium polium</i> Golden Germander	1	
<i>Teucrium montanum</i> Mountain Germander	1	
<i>Teucrium chamaedrys</i> Wall Germander	1	
<i>Teucrium botrys</i> Field Germander	1	
<i>Theobroma cacao</i> Cacao	1	
<i>Thymus vulgaris</i> Garden Thyme; Common Thyme; Thyme	2	79000.0
<i>Thymus serpyllum</i> Creeping Thyme	2	46000.0
<i>Tragopogon porrifolius</i> Salsify	1	
<i>Tribulus terrestris</i> Puncture-vine	1	
<i>Trigonella foenum-graecum</i> Greek Hay; Alholva (Sp.); Greek Clover; Fenugreek; Bockshornklee (Ger.)	3	
<i>Triticum aestivum</i> Wheat	1	
<i>Tussilago farfara</i> Coltsfoot	1	7200.0
<i>Uncaria tomentosa</i> Cat's Claw; Una de Gato; Garabato Amarillo	1	
<i>Uncaria guianensis</i> Ungunagi; Garabato Colorado; Cat's Claw; Una de Gato; Tambor Huasca	1	
<i>Urtica dioica</i> European Nettle; Stinging Nettle	2	
<i>Vaccinium myrtillus</i> Bilberry; Dwarf Bilberry; Whortleberry	1	
<i>Vaccinium corymbosum</i> Blueberry	2	
<i>Vigna radiata</i> Mungbean; Green Gram	1	
<i>Viola tricolor</i> Pansy; Wild Violet	2	460000.0
<i>Viola odorata</i> Sweet Violet; Common Violet	1	40000.0
<i>Viscum album</i> European Mistletoe	1	
<i>Vitis vinifera</i> Vigne Vinifere (Fr.); Weinrebe (Ger.); Parra (Sp.); European Grape; Vid (Sp.); Grapevine; Grape; Wine Grape	1	
<i>Withania somnifera</i> Ashwagandha	1	
<i>Xylopia aethiopica</i> Negro Pepper; Spice Tree; Maniguete (Sp.); Pimienta de Guinea (Sp.); Ethiopian Pepper; Guinea Pepper; Mohrenpfeffer (Ger.)	1	
<i>Zingiber officinale</i> Ginger	1	

Plant	# Chemicals	Total PPM
-------	-------------	-----------

Zizyphus jujuba Jujube; Ta-Tsao; Da-Zao	1	30000.0
---	---	---------