

Some Crop Categories and Crops For North Temperate Climates

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Compiled by Michael Pilarski for the workshop series
1000 Crops for Northwest Growers.

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Over 1,800 crops listed this edition. There are over 125 crop categories listed here with 40 of those being medicinal herb categories. Some of the crops appear in two or more categories (for instance wormwood is in the medicinal, liqueur and insecticides sections). So the total species represented is probably about 900 species. This list is currently in the form of a checklist. Of the 125 categories, 37 are relatively thorough. 58 categories I rate as medium coverage and the lists should be easy to double in size. 33 categories are barely begun the compilation. More categories will be added in future editions. All in all, I would expect that this 2015 list could be easily doubled. We could use someone to put together a plant database to incorporate this list into

This list was drawn up with the Inland Pacific Northwest in mind. Most of the plants listed here are hardy to zone 5 or colder. There are a few zone 6 plants in this version. I will be making a separate version of the list for the Maritime Northwest which will include a lot more zone 6 and zone 7 plants. I will get the Maritime version put together by April 10 when my Puget Sound workshop tour begins.

Grains/cereals: such as bread wheat, durum wheat, rye, oats, barley, kamut, emmer, spelt, einkorn, triticale, teff, proso millet, foxtail millet, pearl millet, finger millet, white fonio, barnyard millet, Koda millet, little millet, wild rice, oriental rice, corn, sorghum. Job's tears,

Non-grass cereals: quinoa, grain amaranth, buckwheat, Huauzontli (*Chenopodium nuttaliae*),

Perennial grains, wild rice (*Oryza* spp.) Indian rice-grass (*Oryzopsi hymenoides*), perennial rye (*Secale montanum*), perennial wheat (*Triticum aestivum* x *Thinopyrum intermedium*), manna grass (*Glyceria fluitans*), beach wild rye (*Leymus arenarius*),

Pulses (leguminous seeds): such as beans, peas, lentils, garbanzo/chickpea, soybean, scarlet runner bean, broad bean (fava), lima bean, edible lupine, adzuki bean, *Caragana arborescens* young pods,

Sprouting seeds: alfalfa, clover, fenugreek, lentil, chickpea, radish,

Root, tuber and bulb vegetables: potato, parsnip, celeriac, carrot, beet, turnip, radish, daikon, rutabaga, scorzonera, salsify, yacon (*Polymnia sonchifolia*), maca, ulluco (*Ullucus tuberosus*), Jerusalem artichoke, crosnes (*Stachys affinis*), mashua/tuber nasturtium (*Tropaeolum tuberosa*), oca (*Oxalis tuberosa*), sweet potato, onion, garlic, leek, elephant garlic (*Allium ampeloprasum*), shallot & potato onion (*Allium cepa* Aggregatum Group), multiplier onion, Egyptian onion, Welsh onion (*Allium fistulosum*), Babinton's leek (*Allium babbingtonii*), Rakkyo/baker's garlic (*Allium chinense*), ramps (*Allium tricoccum*), ramsons (*Allium ursinum*), burdock (Gobo), Chinese water chestnut (*Eleocharis dulcis*), skirret (*Sium sisarum* var. *sisarum*), rampion (*Campanula rapunculoides*), dasheen (*Colocasia esculenta*), lotus (*Nelumbo nucifera*), bulb chervil (*Chaerophyllum bulbosum*), Chinese arrowhead (*Sagittaria sagittifolia*), European grassy arrowhead (*Sagittaria graminea*), American groundnut (*Apios americana*), Japanese wild chervil, (*Cryptotaenia japonica*), sweet cicely (*Myrrhis odorata*), balloon flower (*Platycodon grandiflorus*), Chinese yam (*Dioscorea batatas*), Chinese yam (*Dioscorea*

oppositifolia), Chufa/tiger nut (*Cyperus esculentus*), hamburg parsley, water caltrop (*Trapa bicornis*), *Psoralea esculenta*, soaproot (*Chlorogalum pomeridianum*), yellow asphodel (*Asphodeline lutea*),

Native root vegetables: yampah (*Pterideridia gairdnerii*), wapato (*Sagittaria latifolia*), camas (*Camassia* species), *Lomatium canbyii*, *L. macrocarpon*, *L. nudicaulus*, *L. ambiguum*, *L. cous*, *L. farinosum*, other *Lomatium* species, ookow (*Tritelia grandiflora*), yellowbell (*Fritillaria pudica*), chocolate lily (*Fritillaria lanceolata*), wild onions (*Allium* sp.), *Claytonia lanceolata*, bitterroot (*Lewisia rediviva*), Glacier lily (*Erythronium grandiflorum*), *Calochortus macrocarpon*, *Hedysarum*, *Potentilla anserina*, *Lathyrus*, *Psoralea*, hemlock waterparsnip (*Sium sauve*), *Trifolium wormskioldii*, cattails (*Typha latifolia*),

Annual/Biennial Leaf, stem and flower vegetables: leaf celery, celery, parsley, broccoli, chard, broccoli-rab, cauliflower, kale, curly kale, mustard greens, peppercress, garden cress, (*Lepidium sativum*), lettuce, cabbage, napa cabbage, bok choy, kohlrabi, brussel sprouts, collards, endive, spinach, New Zealand spinach (*Tetragonia tetragonioides*), beet greens, purslane, lambs-quarters, pigweed/redroot, Perilla, celery cabbage (*Brassica rapa* var. *pekinensis*), Chinese cabbage mustard (*Brassica juncea* var. *rugosa*), Chinese flowering cabbage (*Brassica rapa* var. *parachinensis*), Chinese kale (*Brassica oleracea* var. *alboglabra*), Chinese spinach (*Amaranthus tricolor*), corn salad (*Valerianella locusta*), shungiku/garland chrysanthemum (*C. coronarium*), nasturtium, sweet rocket (*Hesperis matronalis*), rocket (*Bunias orientalis*), walking stick cabbage (*Brassica oleracea* var. *acephala*), Huauzontli (*Chenopodium nuttaliae*), Abyssinian Cabbage (*Brassica carinata*), orach (*Atriplex hortensis*), salad mallow (*Malva verticillata* var. *crispa*), radicchio, celtuce (*Lactuca sativa* var. *augustana*), silver thistle (*Carlina acaulis*), red valerian (*Centranthus rubra*), cattails (*Typha latifolia*),

Perennial Leaf, stem and flower vegetables: asparagus, rhubarb, French sorrel (*Rumex acetosa*), cardoon (*Cynara cardunculus*), Good King Henry (*Chenopodium bona-henricus*), seakale, (*Crambe maritima*), greater sea kale (*Crambe cordifolia*), tree collards, perennial kale (*Brassica oleracea* Ramosa Group), Chinese broccoli (*Brassica oleracea* Alboglabra group), perennial broccoli (*Brassica oleracea* Botrytis Group), watercress chives, giant chives (*Allium schoenoprasum* ssp. *sibericum*), Japanese bunching onion (*Allium fistulosum*), Egyptian multiplier onion (*Allium cepa* Proliferum group), three-cornered leek (*Allium triquetrum*), twisted-leaf garlic (*Allium obliquum*), Himalayan garlic (*Allium wallichii*, *A. bulleyanum*), daffodil-garlic (*Allium neapolitanum*), garlic-chives (*Allium tuberosum*), Siberian garlic-chives (*Allium nutans*), broad-leaved chives (*Allium senescens*), alpine leek (*Allium victoralis*), buttonweed, mallow, nettles, dandelion, ostrich fern (*Matteuccia struthiopteris*, *M. pensylvanica*), bracken fern fiddleheads (with caution), witloof chickory, orach (*Atriplex hortensis*), rocket (*Eruca sativa*), shiso (*Perilla frutescens*), French sorrel, sheep sorrel, giant butterbur/fuki (*Petasites japonica*), daylily, escarole, ground elder (*Aegopodium podagraria*), udo/Japanese asparagus (*Aralia cordata*), Samphire (*Crithmum maritima*), Japanese wild chervil, (*Cryptotaenia japonica*), Korean watercress (*Oenanthe javanica*), butcher's broom (*Ruscus aculeatus*), salad burnet, Turkish soaproot (*Chlorogalum pomeridianum*), hardy bamboos, bellflowers (*Campanula* species), bladder campion (*Silene vulgaris*), Caucasian spinach (*Hablitzia tamnoides*), false strawberry (*Duchesnia indica*), French scorzonera (*Reichardia picroides*), golden saxifrage (*Chrysoplennium alternifolium* and *C. oppositifolium*), Hostas (*Hosta* spp.), Ice plant/orpine (*Sedum spectabile* S. *telephium*), mountain sorrel (*Oxyria digyna*), perennial wall rocket (*Diplotaxis tenuifolia*), violets, yellow asphodel (*Asphodeline lutea*), Bath asparagus (*Ornithogalum pyrenaicum*), cabbage thistle (*Cirsium oleraceum*), fool's watercress (*Apium nodiflorum*), Japanese knotweed (*Fallopia japonica* syn. *Polygonum cuspidatum*) (weedy in the maritime NW), mallow (*Malva moschata*, *M. sylvestris*, *M. alcea*, *M. verticillata* var. *crispa*), Norwegian Angelica (*Angelica archangelica* ssp. *archangelica* var. *maiorum*), alpine bistort (*Polygonum viviparum*), Caraway (*Carum carvi*), *Gunnera tinctoria* (maritime NW), cattails (*Typha latifolia*), Canadian wood nettle (*Laportea canadensis*), Virginia spiderwort (*Tradescantia virginiana*),

Pacific Northwest native vegetables: *Lomatium nudicaule*, cow parsnip (*Heracleum lanatum*), prickly pear fruit, waterleaf (*Hydrophyllum capitatum* and *H. sp.*), *Arabis* species, *Lepidium*, *Atriplex*,

Rocky mountain beeplant (*Cleome serrulata*), *Lomatium ambiguum* and many other *Lomatium* sp., *Salicornia*, milkweed, fireweed, *Sarcobatus*, cattail, miner's lettuce (*Montia sibirica*), white mustard (as spice) (*Sinapis alba*), redwood sorrel (*Oxalis oregano*), nodding onion (*Allium cernuum*), western false Solomon's seal (*Maianthemum racemosum*),

Fruit and seed vegetables: watermelon, cantalopes, other melons, bitter melon (*Momordica charantia*), winter squash, summer squash, pumpkin, cucumber, gourds, luffa, garden huckleberry (*Solanum melanocerasum x burbankii*) black nightshade (*Solanum nigrum*), cape gooseberry/ground cherry (*Physalis peruviana*), jamberry (*Physalis ixocarpa*), husk cherry (*Physalis pubescens*), tomatillo (*Physalis ixocarpa & philadelphica*), beans, peas, artichoke, green pepper, hot peppers, tomatoes, eggplant, sweet corn, okra, edamame soybean, bush bean, runner bean, scarlet runner bean, yard long bean (*Vigna unguicularis* subsp. *sesquipedalis*), Asparagus pea/winged bean (*Tetragonolobus purpureus*), strawberry blite/strawberry spinach/beetberry (*Chenopodium capitatum*), yucca, nopale cactus (*Opuntia* spp.),

Edible flowers: pansy, johnny-jump-up, violet, red clover, calendula, mustard, nasturtium, dandelion, borage, magnolia, yucca, black locust, bristly locust (*Robinia hispida*), onion, lawn daisy (*Bellis perennis*), Chrysanthemum, chickory, squash, carnation, rocket, fennel, day lily, lavender, lovage, pineapple weed, beebalm, rose, basil, rosemary, elder, linden, broom flowerbuds pickled as caper substitute (*Genista tinctoria*), *Mimulus*, sweet william (*Dianthus barbatus*), Columbine,

Bush/shrub fruits: Oregon grape, *Aronia*, elderberry, Nanking cherry, sea buckthorn/seaberry (*Hippophae rhamnoides*), rugosa rose, rosehips in general, Goji berry, Buffalobery (*Shepherdia canadensis* and *S. argentea*) *Elaeagnus* family (Autumn olive, (*Elaeagnus umbellata*), goumi (*Elaeagnus multiflora*), silverberry (*Elaeagnus comutata*), *Vaccinium* (lingonberry, small cranberry (*V. oxycoccus*), large cranberry (*V. macrocarpon*), blueberry, huckleberry, bilberry), *Ribes* (European black currant, white currant, red currant, Crandall currant, Gold currant, clove-scented currant, gooseberry, jostaberry), The *Rubus* cane fruits (raspberry, tayberry, wineberry, cloudberry, thimbleberry, salmonberry), *Rubus pentalobus*, Groundcover raspberry, Nepalese raspberry, beach plum, sand cherry, serviceberry, nanny berry, highbush cranberry, prinsepia cherry (*Prinsepia sinensis*), honeyberry (*Lonicera*), strawberry, snowbell tree (green pods) (*Halesia carolina*),

Vine fruits, table grapes, wine grapes, kiwifruit, hardy kiwifruit, *Schisandra*, *Akebia*, *Holboellaria*, vining roses, vining cane fruits, blackberry, boysenberry, loganberry, marionberry, youngberry, trailing blackberry (*Rubus ursinus*),

Tree Fruits: apple, crabapple, apple crab, pear, Asian pear, quince, medlar, hawthorn, *Pyracantha*, mountain ash, shipova (cross between mountain ash and pear), sweet cherry, pie cherry, peach, Siberian C peach, nectarine, apricot, sweet-pit apricot, plums, damson plums, American plums, sloe plum, American persimmon, pawpaw (*Asimina triloba*), Russian mulberry (*Morus tatarica*), Eastern red mulberry (*Morus rubra*), black mulberry (*Morus nigra*), figs, Russian olive, jujube, sumac, hackberry (*Celtis* sp), Cornelian Cherry dogwood, (*Cornus mas*),

Nuts and seeds: filberts, hazelnuts, tree hazels, filazels, trazels, black walnut, heartnut, butternut, buartnut, hickories, pecans, almonds, ginkgo, pine nuts, black cumin (*Nigella sativa*), Yellow Horn, bastard toad-flax, peanut, borage seeds, lotus, sweet-pit apricot, oaks, American chestnut, European chestnut, Korean chestnut, popcorn, *Lomatium* species, balsamroot seeds, *Madia* species, Plantago, Rocky mountain beeplant (*Cleome serrulata*), sweet cicely (*Myrrhis odorata*), shiso/beefsteak plant (*Perilla frutescens*), psillium (*Plantago psyllium*), *Chenopodium berlandieri*, plantain (*Plantago* spp.),

Edible leaves of woody-stemmed plants: linden (*Tilia* spp.), grape, Chinese Cedar (*Toona sinensis*), chestnut, mulberry, salbushes (*Atriplex halinus*, *A. canescens*), Japanese aralia young shoots (*Aralia elata*), beech,

Edible oils, Safflower, pumpkin, squash, walnut, filbert, flax, canola (rape), camelina, soybean, white mustard, black mustard, poppy, sunflower, *Cucurbitae foetidissima*, black currant seeds, borage seed, linden seed, hemp, beechnut, Dragon Head (*Lallemantia canescens*), cottonseed, Lotus, Monkey Puzzle Tree (*Auracaria auracana*), niger seed (*Guizotia abyssinica*), Tiger nut (*Cyperus esculentus*), pine nuts, *Perilla frutescens*, evening primrose (*Oenothera biennis*), poppy seed, cardoon seed,

Sugars: sugar beet, honey, fruit syrups, stevia, sorghum, maple trees, Perilla,

Culinary herbs, French tarragon, lovage, parsley, thyme, oregano, marjoram, pot marjoram, angelica, basil, Perilla, chervil, chives, dill, mints, rosemary, salad burnet, summer savory, winter savory, creeping savory (*Satureja spicigera*), sage, sweet cicely, American dittany (*Cunila origanoides*), Syrian oregano (*Origanum syriacum*), papalo (*Porophyllum ruderale*), cotton lavender (*Santolina chaemacyparissus*), Costmary (*Tanacetum balsamita*), snowparsley (*Cnidium monnieri*), yomogi (*Artemisia princeps*), apple mint (*Mentha suaveolens*), Bowles's mint (*Mentha Bowles's mint*), burnet saxifrage (*Pimpinella saxifraga*), garlic cress (*Peltaria alliacea*),

Spices and flavors: horseradish, black cumin, Coriander, dill, fennel, Caraway (*Carum carvi*), anise, juniper berries, lovage, mints, lemon verbena, lemongrass, lemon basil, lemon thyme, lemon balm, oregano, celery seed, sage, thyme, wasabi (*Wasabia japonica*), osha, licorice, black cumin, black mustard, white mustard, brown mustard, cayenne pepper, juniper berries, lovage, asafoetida, basil, chamomile, sage, borage, horseradish, lemon verbena, ammi (Ammi majus), Cymopterus, rock rose (*Cistus ladanifer*), Japanese wild chervil seed, (*Cryptotaenia japonica*), spicebush (*Lindera benzoin*), Syrian rue seeds (*Peganum harmala*), pink savory (*Satureja thymebra*), alexanders (*Smyrniolum olusatrum*), saffron (*Crocus sativa*), cow parnip seed (*Heracleum lanatum*),

Beverage plants including flavorants. Sassafras, Aronia, elderberry, grape, pipsissewa, wild ginger, dandelion, burdock, sarsaparilla (*Aralia nudicaulis*), Labrador tea (*Ledum groenlandicum*), licorice, chicory, acorns, *Cedronella canariensis*, Sweetfern (*Comptonia*), Ratibida, sumac, Greek mountain tea (*Sideritis syriaca*), Costmary (*Tanacetum balsamita*),

Food dyes: beets, elderberry, carrot, marigold, alfalfa, grape skin, red cabbage, perilla,

Edible mushrooms: oyster, king stropharia, morels, button Agaricus, shitaki, maitaki, truffles, boletes, chanterelles, lions mane, matsutaki,

Gums, gels and starches: kudzu, aloe gell, sorghum, corn, licorice, flax, chia,

Chewing gum: Tragopogon sap, Douglas fir pitch, sweet gum (*Liquidamber styraciflua*), milkweed gum?,

Plant rennets for cheese-making: yellow bedstraw/cheese rennet (*Galium verum*), silver thistle (*Carlina acaulis*), cardoon,

Wine/beer/Liqueur (Amy Stewart's book *The Drunken Botanist* is a great source of information on the topic. She lists 56 plants, I've followed the format of how she divides things up and added additional species:

Grains/feedstock for fermenting: malted barley, rye, wheat, hops, corn, quinoa, sorghum,

Herbs: wormwood, yarrow, mugwort, angelica, Roman wormwood/small absinthe (*Artemisia ponticum*), Sweetfern (*Comptonia*), oak moss lichen (*Evernia*), dittany of Crete (*Origanum dictamnus*), costmary (*Tanacetum balsamita*), anise-hyssop, basil, lemongrass, lemon verbena, pineapple sage, thyme, sweetgrass, vanilla grass (*Anthoxanthum odoratum*), black wormwood (*Artemisia genipi*),

Seeds: fennel, anise, dill, coriander, *Angelica*, *Myrrhis odorata*,

Roots: lovage, sweetroot (*Osmorhiza occidentalis*), sweetflag, osha, yellow gentian (*Gentiana lutea*), wood avens (*Geum urbanum*),

Flowers, borage, calendula, elderflower, honeysuckle, lavender, marigold, rose, Sichuan button (*Spilanthes*), violet, clove-pink (*Dianthus caryophyllus* 'Genadin'),

Trees: juniper, apple, apricot, cherry, fig, peach, plum, hoptree (*Ptelea*),

Berries & vines. grape, black currant, aronia, elderberry, chokecherry, blackberry, blueberry, currant, raspberry, sloe-plum, (Probably all fruits and berries can be turned into alcoholic beverages).

Fruits & vegetables: celery cucumber, melon, miracle fruit, rhubarb, strawberry, tomatillo, tomato, watermelon,

Essential oils: lavender, mints, hyssop, lemon balm, clary sage, roses, yarrow, basil, rosemary, goldenrod, sage, sagebrush, winter savory, thyme, fennel, angelica, basil, birch wintergreen, cedar, balsam fir, sweet flag, *Cistus*, coriander, *Costus*, dill, fennel, juniper, spruce, orris root, rosemary, yerba buena, tarragon, hemlock, pine, valerian, spikenard, balsam fir, pellitory roots (*Anacyclus pyrethrum*), angelica, atlas cedar (*Cedrus atlantica*), rock rose (*Cistus ladanifer*), oak moss lichen (*Evernia*), curry plant (*Helichrysum italicum*), spikenard (*Nardostachys grandiflora*), black cumin (*Nigella sativa*), shiso/beefsteak plant (*Perilla frutescens*), mignonette (*Reseda odorata*), Greek sage (*Salvia fruticosa*), sassafras root, pink savory (*Satureja thymebra*), carrot seed, German chamomile, sweet annie (*Artemisia annua*), ajowan (*Trachyspermum ammi*), tansy (*Tanacetum vulgare*),

Material for cosmetics: [crèmes, lotions, tonics, perfumes, deodorants, colognes, shaving preparations, powders, soaps, shampoos, balsams, hair styling gels, anti-perspirants, color cosmetics, oral hygiene products, toothpastes, mouthwashes, antiseptics, detergents, air fresheners, and sun, hair, facial, hand, skin and body care products. The above list of product categories is from *Medicinal and Aromatic Crops*, Serdar Oztekin and Milan Martinov.] arnica, St. John's wort, Sea buckthorn oil, plantain, chickweed, calendula, sweetflag, aloe vera, oats, chamomile, chickory, holy basil, gotu kola, soapwort, German chamomile (*Matricaria recutita*), black currant seed oil, evening primrose oil, borage seed oil, nettles, jasmine, rose, many essential oils and hydrosols produced in essential oil distillation, aloe vera, rosemary, sage, chamomile, alumroot (*Heuchera*) root, puffball spores, edelweiss (*Leontopodium alpinum*), wood avens (*Geum urbanum*),

Medicinal plants * See section at the end of this list.

Smoking plants such as mullein, coltsfoot, mints, osha (*Ligusticum* species), lovage, red clover, pearly everlasting, tobacco, kinnikinnik, raspberry leaf, cotton lavender (*Santolina chaemacyparissus*), yarrow leaves, sweetflag, sumac fall leaves (*Rhus glabra*), Lion's tail, (*Leonotis leonurus*),

Used to flavor tobacco: sweet gum (*Liquidamber styraciflua*), lovage, osha, licorice, shiso/beefsteak plant seed oil (*Perilla frutescens*), sweetflag, Angelica,

Aphrodisiacs: ginseng, sweetflag, Clary, Fo-ti-tieng, garlic, ginkgo, licorice, lotus, rosemary, vervain, wormwood, ashwaganda, Epimedium, licorice root, Canby's lovage, *Cnidium monnieri* seed,

Incense, smudges: such as sweetgrass, white sage, juniper, western red cedar, mugwort, sagebrush, pine resin, globemallow (*Sphaeralcea* sp),

Ceremonial/sacred plants, [all the above category] plus cedar, juniper, tobacco, sitka valerian, (*Valeriana sitchensis*), *Populus balsamifera*), *Datura*, *Lomatium nudicaule*, psilocybe mushrooms, *Salvia divinorum*, ayuasca, *Veratrum*,

Potpourri such as orris root (*Iris florentina*, *I. germanica*), vanilla leaf, sweet woodruff (*Galium odoratum*), disc mayweed (*Matricaria dioscoidea*), lavender, lemon thyme, lemon verbena, Sweetfern (*Comptonia*), lemon balm, blue sage (*Salvia clevelandii*), cotton lavender (*Santolina chaemacyparissus*), costmary (*Tanacetum balsamita*), clove-pink (*Dianthus caryophyllus* 'Genadin'), mignonette (*Reseda odorata*), Russian sage (*Perovskia atriplicifolia*), wallflower (*Cheiranthus cheiri*),

Beads/jewelry such as *Lithospermum*, heartnut, black walnut, butternut, job's tears, flax, rosehips, yellow horn, chokecherry, linden, job's tears, maidenhair fern, kinnikinnik, Russian olive seed, silverberry (*Elaeagnus comutata*), juniper, acorns, Kentucky coffeetree (*Gymnocladus dioica*), goldenrain tree (*Koelreuteria paniculata*), *Laburnum*,

Resins, oils, balsam, oleoresins, gum resins: such as galbanum (*Ferula galbaniflua*) asafaeitida, (*Ferula assafoetida*), globemallow root sap (*Sphaeralcea* sp), rock rose (*Cistus ladanifer*), gum ammoniac (*Dorema ammoniacum*), sweet gum (*Liquidamber styraciflua*), shiso/beefsteak plant seed oil (*Perilla frutescens*), douglas fir pitch,

Adhesives: cottonwood buds, gumweed, propolis,

Caulking: spruce sap, pine sap, douglas fir sap, sphagnum, cattail seedheads,

Waxes or burning oils such as bayberry, sumac, lacquer tree, horned poppy (*Glaucium flavum*),

Turpentines from pines, balsam fir, larch, spruce,

Rubber: rabbitbrush (*Chrysothamnus nauesosus*), dandelion, milkweed, hardy rubber tree/gutta-percha tree (*Eucommia ulmoides*),

Soaps: soapwort, snowberry (*Symphoricarpus*), *Yucca*, Beargrass (*Xerophyllum tenax*), soaproot (*Chlorogalum pomeridianum*),

Tannin barks for tanning, oak for wineries, oak, hemlock, chestnut, alder, birch, black locust, douglas fir, juniper, larch, osage orange, pine, fir, sumac, willow, yew, sage,

Honey plants for nectar/pollen: A very long list. Some notable honey plants include black locust, linden, lavender, many plants in the mint family, fruits in general, knapweed, sourwood (*Oxydendron arboreum*), *Umbelliferae*/carrot family, beebee tree (*Tetradium daniellii* (was *Evodia*), Russian sage (*Perovskia atriplicifolia*),

Cut Flowers, gladiolus, rose, *Celosia argentea*, cockscomb (*Celosia cristata*), mum (*Chrysanthemum morifolium*), Echinacea, painted daisy (*Chrysanthemum coccineum*), pineapple sage (*Salvia elegans*), wallflower (*Cheiranthus cheiri*),

Dried flowers such as strawflower, teasel, *Cedronells canariensis*, baby's breath, everlasting (*Helichrysum arenarium*), pineapple sage (*Salvia elegans*), Russian sage (*Perovskia atriplicifolia*), silver thistle (*Carlina acaulis*), sandy everlasting (*Helichrysum arenarium*),

Evergreen foliage plants: Oregon box (*Menziesii*), oregon-grape, salal, evergreen huckleberry, sword fern, deer fern, maidenhair fern, bear-grass,

Ornamental foliage plants: sweet annie (*Artemisia annua*),

Ornamentals for landscaping/flower gardens: columbine, lupine, *Penstemon*, edelweissm, *Delphinium*, *Coreopsis*, sweet pea, butterfly weed, sweet william (*Dianthus barbatus*),

Rock Garden ornamentals: edelweiss, Arnica montana, rose root (*Rhodiola rosea*), bitterroot (*Lewisia rediviva*), *Lewisia* species,

Livestock forage and/or fodder plants such as willow, poplars, cottonwood, Paulownia, linden, fruit trees in general, alfalfa, sainfoin, vetch, sweet clover, sorghum, foxtail millet, many crop residues,

Fish food, soybean, pulses, feed waste vegetation to worms to fish.

Bird Food: millets, sunflower seed,

Textile Fibers. Used for fabrics, cordage and netting. [To make fabrics and netting flexible fibers are twisted together into thread or yarn and then either spun, knitted, woven or in some other way utilized. Fabrics include cloth for wearing apparel, domestic use, awnings, sails, etc., and also coarser materials such as gunny and burlap. Fabric fibers are all of some commercial value. Netting fibers that are used for hammocks, lace and all forms of nets include many of the commercial fabric fibers and a number of native fibers as well. Both commercial and native fibers are used for cordage. For this the individual fibers are twisted together instead of being woven. Binder twine, fish lines, hawsers, rope and cables are among the many types.] Nettles, flax, black indian hemp (*Apocynum cannabinum*) cotton, wool, hair, milkweed, yucca, willow bark, silverberry (*Elaeagnus comutata*),

Natural dyes, paints, inks: Dye in textile, painting, paper and printing industries: woad, Lithospermum, devil's club charcoal, beets, elderberry, alkanet (*Alkanna tinctoria*), indigo, dyer's chamomile/golden marguerite (*Anthemis tinctoria*), many lichens including *Usnea*, *Evernia vulpine*, acorns, alder, hemlock, bedstraw, birch, raspberry, blanketflower, bolete mushrooms, turkeytail mushrooms, sumac, black walnut, butternut, chokecherries, red osier dogwood, goldenrod, mullein, osage orange, polypores, pokeberry (*Phytolacca americana*), pigweed, *Juniperus occidentalis*, mountain mahogany (*Cercocarpus*), willow, madder (*Rubia tinctoria*), bloodroot, rabbitbrush, cinquefoil, Western comandra, sassafras, mulberry, honey locust, nettles, catalpa, may-apple, barberry, carrots, coreopsis, onion, yellow dock, grand fir, sweetgum, sycamore, dandelion, St. John's Wort, indigoweed (*Baptisia tinctoria*), *Chenopodium capitata*, Rocky mountain beeplant (*Cleome serrulata*), Syrian rue fruits (*Peganum harmala*), weld (*Reseda luteola*), madder/quia cao gen (*Rubia cordifolia*), madder (*Rubia tinctorium*), blackberry, raspberry, wolf lichen (*Evernia* sp. Toxic), yellowroot (*Xanthoriza simplicissima*), *Baptisia*, *Comandra*, *Delphinium*, *Cascara*, *Heuchera* (mordant), broom (*Genista tinctoria*), yellow bedstraw/cheese rennet (*Galium verum*), *Coreopsis tinctoria*, tansy (*Tanacetum vulgare*), woad (*Isatis tinctoria*), blue cornflower/bachelor's button (*Centaurea cyanus*),

Face paints: globemallow root sap (*Sphaeralcea* sp), *Purshia tridentata* unripe seeds, *Lithospermum ruderale* and *L. erythrorhizon*, devils' club charcoal, cattail pollen, cocklebur seed power, blue (*Xanthium*),

Brush Fibers: Stiff tough fibers including small stems and twigs that are utilized for making brooms and brushes. Broom corn, sedges, butcher's broom,

Rough Weaving & Plaiting fibers. Basketry materials, non-woody: Plaits are fibrous, flat and pliable strands that are interlaced to make straw hats, baskets, sandals, chair seats, etc. The most elastic strands are woven together for mattings and the thatched roofs of houses. The supple twigs or woody fibers are for making chairs, baskets and other wickerwork. cattail, tules, rushes, reeds, iris, sedges, horsetail, pine needles, horse hair, yucca, New Zealand flax, raffia, cedar bark, cedar root, spruce root, orange honeysuckle (*Lonicera ciliosa*), Western clematis (*Clematis ligusticifolia*), sagebrush (*Artemisia tridentata*), pinegrass, basin wildrye (*Elymus cinereus*), Beargrass (*Xerophyllum tenax*), Bitter cherry bark (*Prunus emarginata*), bracken fern roots, broom corn,

Fine weaving fibers for decorating baskets/imbrication: maidenhair fern, bitter cherry bark (*Prunus emarginata*), sweetgrass, basin wildrye culms (*Elymus cinereus*), Beargrass (*Xerophyllum tenax*), silverberry bark (*Elaeagnus comutata*),

Filling Fibers. Used for stuffing mattresses, cushions and in upholstery; for caulking seams in boats and in casks and barrels; as stiffening in plaster and as packing material. Fireweed, milkweed, moss, bedstraw (*Galium aparine*), bracken fern, salsify seed heads,

Fiber for paper, kenaf, bamboo, hemp, *Spartina*, knapweed, many other species,

Natural Fabrics. Usually obtained from tree basts that are extracted from bark in layers or sheets and pounded into rough substitutes for lace or cloth. Tapa cloth from a tropical mulberry.

Wickerwork, Coppice crops for basketry, weaving, chair seats, chairs, infant carriages, hampers and other light articles of furniture. Willows, maples, red osier dogwood, Osage orange, hazel, chestnut, oak, cedar bark, cedar roots, spruce roots, bamboo, vine maple, birch, Ocean Spray (*Holodiscus discolor*), serviceberry, birch, ash, chokecherry, young cedar branches, Sorbus, box elder,

Timber, lumber, beams, roundwood, poles, fenceposts, etc: black locust, catalpa, alder, ash, aspen, cottonwood, beech, birch, chestnut, maple, oak, sycamore, walnut, mulberry, monkey puzzle, *Paulownia*, tulip tree, sweetgum (*Liquidamber styraciflua*), tupelo, horse chestnut, honeylocust, Kentucky coffeetree,

Evergreen Conifers: pine, fir, spruce, hemlock, sequoia, western red cedar, eastern white cedar, incense cedar, Atlas cedar, Leyland Cypress,

Deciduous conifers: larch, dawn redwood, bald cypress, *Pseudolarix*,

Firewood: Many tree species, black locust, elm, Russian olive, oak, tree-of-heaven,

Wood for fire tools, mock-orange (*Philadelphus lewisii*)

Firemaking tools: Firedrills: Mullein, horseweed (*Conyza*), **Hearths:** cottonwood,

Digging sticks, o`o bars, spears, tool handles: hawthorn, serviceberry, yew, maple, mulberry, juniper, larch, hemlock, hickory, ash, persimmon,

Specialty hard woods for spindles, bearings, etc, same as above category where trunk diameter is sufficient. dogwood, yew, hawthorn, hornbeam, *Euonymus*, persimmon, goldenrain tree (*Koelreutaria paniculata*),

Carving wood/turnery: linden, holly, plum, apricot, mulberry, most fruit woods, *Phellodendron*, maple, redbud, magnolia, sourwood (*Oxydendron arboreum*), lilac, golden chain tree (*Laburnum*)

Arrowstems: leadplant (*Amorpha*), rose, *Physocarpus*,

Hollow or pithy stems for use in mason bee houses: raspberry, small bamboos, poison hemlock, elderberry, the ideal hole size is 3/8 inch diameter.

Bow wood: yew, bristly locust (*Robinia hispida*), vine maple, Rocky Mountain maple, hickory,

Wood for peeling into strips such as raffia, ash,

Shingles, cedar, oak, ash,

Barrel staves, oak,

Smoking meats/fish: apple, crabapple, mesquite,

Thatch: long grasses, tules, sorghum,

Chlorophyll Production, alfalfa, nettles, barley,

Ramial chipped wood. Chipping small-diameter coppiced hardwood trees as a soil amendment. Poplars, alders, willows, other fast-growing hardwoods which coppice well.

Christmas trees, Many conifers,

Biodiesel and other plant-derived fuels, canola, soybean, corn, Jerusalem artichoke,

Biochar, Almost all woody material and crop debris.

Industrial inputs from pyrolysis: Same feedstock as above.

Green manure/cover crop seed: buckwheat, Austrian field peas, oats, red clover, white clover, sweet clover, crimson clover, sainfoin, mustard, alfalfa, birds foot trefoil (*Lotus corniculatus*), lupine, black medic (*Medicago lupulina*), *Crotalaria*, *Lathyrus*, crown vetch (*Coronilla varia*),

Natural insecticides: [insecticidal, herbicidal, fungicidal, rodenticide, antifeedant, antimicrobial, allelopathic, antioxidant, repellent, nematicidal and bioregulatory properties.] mustard, marigold, rhubarb, chrysanthemum, feverfew, garlic, cayenne, tobacco, ox-eye daisy, Lemon bergamot (mosquito repellent) (*Monarda citriodora*), pyrethrum (*Tanacetum cinerariifolium*), painted daisy (*Chrysanthemum coccineum*), horseradish, (The essential oils of basil, *Artemisia annua*, rosemary, fennel, pine, peppermint, anise, yarrow, wormwood, sagebrush, many *Artemisia* species, *Ceanothus velutinus*, *Cymopterus*, *Grindelia*, pennyroyal, juniper, mints, fir, pine, tansy (*Tanacetum vulgare*), cedar, hemlock, *Thalictrum*, vinegar weed (*Trichostema lanceolatum*), love-in-a-mist (*Nigella damascena*),

Natural herbicides: *Tithonia diversifolia*, caraway oil, *Artemisia annua*, mustard, wormwood,

Fish poisons: soaproot (*Chlorogalum pomeridianum*), *Lomatium dissectum*,

Rodenticides: squill (*Urginea maritima*),

Weeds. All uses of weeds where they fit into this list.

Seed crops (of all categories listed here)

Nursery stock (of all categories listed here)

Useful Northwest Native Plants

* Food crops such as camas, yampah, *Lomatium* species such as *L. canbyii*, *L. nudicaule*, *Ribes aureum*, chokecherry, blue elderberry, huckleberries, wild crabapple, hawthorns, strawberries, raspberry, black-cap raspberry, *Rubus pedatus*, buffaloberry, bracken fern (*Pteridium aquilinum*), Hudson currant (*Ribes hudsoniana*), inner barks of lodgepole pine, hemlock (*Tsuga*), and cottonwood; *Disporum hookeri*, cattail, Blazing star, (*Mentzelia laevicaulis*), sumac, *Empetrum*, *Sisyrinchium*, bitterroot

* Medicinals such as devil's club, osha, *Usnea*, Oregon-grape, hawthorn elderberry, arnica, Pacific yew, yarrow, nettles, chinquapin, sitka valerian, (*Valeriana sitchensis*), sagebrush, blanketflower, balsamroot, *Lomatium dissectum*, pipsissewa, *Frasera*, *Sisyrinchium*, fringed wormwood (*Artemisia frigida*), sticky cinquefoil (*Potentilla glandulosa*),

* Ecological restoration, all native species.

* Ornamental seed, *Alliums*, *Fritillary*, bitterroot, *Gaillardia*, *Monarda*, Indian paintbrush (*Castilleja* species), *Sisyrinchium*, *Dodecatheon*, *Gilia*, perennial blue flax, See Native Ideals Seed Company in Arlee, Montana for additional species. ,

Many additional useful native species are found throughout this entire list.

Medicinal plants.

There are 580 medicinal crops listed in this 2/15/2015 version. Some of these crops appear in two or more categories (for instance comfrey root and comfrey leaf) so the total species represented is probably about 350 species. I have worked with about half of these crops. Medicinal crops are my specialty.

Plant parts used as medicine include: root, rhizome, bulb, tuber, bark, wood, flower buds, buds from woody plants, leaf, aerial parts, flowers, fruit, gum, resins, fatty oil, pressed juice, and essential oil. Medicinal plants can be subdivided into regional/cultural pharmacopias such as Traditional Chinese medicine, Ayurvedic, European, Mayan, Apache, etc.

Medicinal plants in terms of growth habit and plant part used:

* **Annual flowers** such as calendula, Japanese honeysuckle flowerbuds (*Lonicera japonica*), German chamomile (*Matricaria recutita*), Spilanthes, cornsilk, mum (*Chrysanthemum morifolium*), blue cornflower/bachelor's button (*Centaurea cyanus*), saffron crocus stigmas (*Crocus sativus*),

* **Annual herbs (and tender perennials grown as annuals) for aerial parts/leaves:** such as holy basil, lobelia, blessed thistle, sweet annie (*Artemisia annua*), mullein (biennial), borage, *Catharanthus rosea*, eyebright (*Euphrasia officinalis*), shiso/beefsteak plant (*Perilla frutescens*), papalo (*Porophyllum ruderale*), Spilanthes, chiretta (*Swertia chirata*), wormseed (*Chenopodium ambrosioides*), summer savory, *Celosia argentea*, cockscomb (*Celosia cristata*), *Eclipta prostrata*, Japanese catnip (*Schizonepeta tenuifolia*), ajowan (*Trachyspermum ammi*), *Andrographis paniculata*, lemon verbena (*Aloysia triphylla*), marijuana (*Cannabis sativa*), lemongrass (*Cymbopogon citratus*), *Datura stramonium*, fumitory (*Fumaria officinalis*), candytuft (*Iberis amara*),

* **Annual fruits:** bitter melon (*Momordica charantia*),

* **Roots of annuals (or perennials treated as annuals):** Ashwaganda, *Achyranthes bidentata*,

* **Bulbs, corms:** onion, garlic, garlic chives, autumn crocus (*Colchicum autumnale*), squill (*Urginea maritima*), snowdrop (*Galanthus nivalis*),

* **Biennial roots** (harvested in the fall of the 1st growing season or spring of the 2nd growing seas) such as burdock, yellow dock, teasel, valerian, lovage, *Angelica archangelica*, *Angelica dahurica*, *Angelica pubescens*, silver thistle (*Carlina acaulis*), woad (*Isatis tinctoria*),

* **Biennial flowers** such as mullein,

* **Biennial plants for their foliage:** Clary sage, henbane (*Hyoscyamus niger*),

* **Short-term perennials** such as catnip, belladonna (*Atropa bella-donna*), chamomile, gum ammoniac (*Dorema ammoniacum*), goat's rue (*Galega officinalis*), feverfew (*Tanacetum parthenium*), oxknee (*Achyranthes bidentata*), fringed pink (*Dianthus superbus*), skullcap (*Scutellaria lateriflora* and *S. barbata*), woad (*Isatis tinctoria*),

* **Robust, rhizomatous, bed crops** such as nettles, goldenrod, fireweed, horsetail, bugleweed, licorice, goats-beard (*Aruncus dioicus*), black Indian-hemp (*Apocynum cannabinum*), pearly everlasting (*Anaphalis margaritacea*), peppermint, spearmint, other creeping mints, coltsfoot (*Tussilago farfara*),

* **Small-statured, rhizomatous, bed crops in sun:** such as meadow arnica (*Arnica chamissonis*), skullcap, sheep sorrel, California poppy, sweetflag, bai zhu/Chinese thistle daisy (*Atractylodes macrocephala*), disc mayweed (*Matricaria dioscoidea*), Self-heal (*Prunella*), *Calamintha nepeta*, rupturewort (*Herneraria glabra*), coltsfoot,

* **Small-statured, rhizomatous, bed crops in shade:** sweetflag, lily of the valley, Solomon's seal (*Polygonatum odoratum*), wild ginger (*Asarum caudatum* and *A. canadense*), sarsaparilla (*Aralia nudicaulis*), goldenseal, ginseng, coptis/goldthread (*Coptis chinensis*, other *Coptis* species), bloodroot, sweet violet (*Viola odorata*), bugle (*Ajuga reptans*), *Anemarrhena asphodeloides*, *Angelica genuflexa*, American spikenard (*Aralia racemosa*), kinnikinnik (*Arctostaphylos uva-ursi*), sitka valerian (*Valeriana sitchensis*), false solomons-seal (*Maianthemum racemosa*), star-flowered Solomon's seal (*M. stellata*), heart-leaf arnica (*Arnica cordifolia*), bunchberry (*Cornus canadensis*), *Lilium columbianum*, vanilla-leaf (*Achlys triphylla*), ghostpipe (*Monotropa uniflora*), *Pipsissewa umbellata*, Self-heal (*Prunella*), mayapple (*Podophyllum peltatum*, *P. hexandra*), pennyroyal (*Mentha pulegium*), goldthread (*Coptis* sp.), horny goat weed (*Epimedium sagittatum*), sweet woodruff (*Galium odoratum*), *Gymnostemma pentaphyllum*, partridge berry (*Mitchella repens*), Japanese hyacinth/mondo grass (*Ophiopogon japonicus*), kuru (*Picrorhiza kurroo*), Indian gentian (*Gentiana kurroo*), lungwort (*Pulmonaria officinalis*), yellowroot (*Xanthoriza simplicissima*), lilyturf (*Ophiopogon japonicus*), wood avens (*Geum urbanum*),

* **Small-statured, shade perennials inc. bulbs,** Trillium species, false-unicorn root (*Chamaelirium luteum*), jack-in-the-pulpit (*Arisaema triphyllum*), Dragon plant (*Arisaema consanguineum*), leopard lily/she gan (*Belamcanda chinensis*), Calypso bulbosa), *Dryopteris* ferns, Pyrola, spikenard, *Pedicularis*, *Corydalis*, lady's slipper orchid (*Cypripedium parviflorum*), clubmoss (*Lycopodium*), spikenard (*Nardostachys grandiflora*), pinella/ban xia (*Pinellia ternate*), sanicle (*Sanicula europaea*), cowslip (*Primula veris*), edelweiss (*Leontopodium alpinum*), liverwort (*Hepatica acutiloba*),

* **Perennial flowers** such as arnica (*Arnica montana*, *A. cordifolia*, *A. fulgens*, *A. parryii*, *A. chamissonnis*), red clover, St John's wort, yarrow, beebalm, *Penstemon*, *Pedicularis*, *Anemone*, sandy everlasting (*Helichrysum arenarium*),

* **Perennials with harvested aerial parts** such as boneset, meadowsweet, bee balm, Lemon bergamot (*Monarda citriodora*), lady's mantle (*Alchemilla vulgaris*, *A. mollis*, *A. alpine*, *A. conjuncta*), wormwood (*Artemisia absinthium*), mugwort/moxa (*Artemisia vulgaris*), Western mugwort (*Artemisia ludoviciana*), white mugwort (*Artemisia lactiflora*), *Agastache urticiflora*, anise-hyssop (*Agastache foeniculum*), rue (*Ruta graveolens*), thorum-wax /chai hu (*Bupleurum falcatum*), dan shen (*Salvia miltiorrhiza*), alfalfa, Bidens, mountain mint, (*Pycnanthemum* species), *Ratibida*, globemallow root sap (*Sphaeralcea* sp), blue vervain (*Verbena hastata*), vervain (*Verbena officinalis*), *Verbena* sp., *Liatris*, turtlehead (*Chelone glabra*), sweet cicely (Myrrhis odorata), Syrian rue (*Peganum harmala*), pulsatilla (*Pulsatilla vulgaris*), Greek mountain tea (*Sideritis syriaca*), pinkroot (*Spigelia marilandica*), *Leuza carthamoides* (Lujza, Maral root), Chinese Reineckia (*Reineckia carnea*), wild mint (*Mentha arvensis*), Korean mint (*Agastache rugosa*), yu xing cao (*Houttuynia cordata*), field mint (*Mentha haplocalyx*), pasque flower (*Anemone pulsatilla*), pasque flower (*Pulsatilla vulgaris*), spring adonis (*Adonis vernalis*), agrimony (*Agrimonia eupatoria*, *A. procera*, *A. pilosa*), birthwort (*Aristolochia clematidis*), feverfew (*Chrysanthemum parthenium*), globe artichoke (*Cynara scolymus*), willow-herb (*Epilobium parviflorum*), senega snakeroot (*Polygala senega*),

* **Perennial roots,** such as comfrey, elecampane, marshmallow, horseradish, Balsamroot (*Balsamorhiza sagitata*), *Lomatium dissectum*, *Lithospermum ruderales*, zi-cao (*Lithospermum erythrorhizon*), *Lithospermum officinale*, gravelroot (*Eupatorium purpureum*), black cohosh (*Cimicifuga racemosa*, *C. dahurica*, *C. heracleifolia*, *C. foetida*), blue cohosh, goldenseal, ginseng, culvers-root (*Veronicastrum virginicum*), Joe-Pye weed (*Eupatorium purpureum*), asparagus (*Asparagus officinalis*), *Echinacea* species, osha (*Ligusticum* species), chinese lovage (*Ligusticum jeholense*), *Cymopterus*, *Angelica* species, pellitory (*Anacyclus pyrethrum*), butterfly weed/pleurisy root (*Asclepias tuberosa*), *Astragalus membranaceus*, indigoweed (*Baptisia tinctoria*), sweetroot (*Osmorhiza occidentalis*), *Codonopsis pilosula*, cotton plant, Stone root (*Collinsonia canadensis*), *Dioscorea batatas*, Chinese yam (*Dioscorea oppositifolia*), yellow gentian (*Gentiana lutea*), Mandragora, sweet cicely (*Myrrhis odorata*), peony (*Paeonia officinalis*), pokeroot (*Phytolacca americana*), balloon flower (*Platycodon grandiflorus*), dan shen (*Salvia miltiorrhiza*), pinkroot (*Spigelia marilandica*), Alumroot (*Heuchera cylindrica*), *Paeonia brownii*, *Zhi mu* (*Anemarrhena*

asphodeloides), *Angelica sinensis*, *Asparagus cochinchinensis*), *Aster tataricus*, *Gentiana scabra*, *Gentiana straminea*, *Lilium lancifolium*), Chinese foxglove (*Rehmannia glutinosa*), *Saposhnikovia divaricata*, *Scrophularia buergeriana*, Chinese cucumber (*Trichosanthes kirilowii*), New England aster (*Symphotrichum novae-angliae*), aconite (*Aconitum napellus*, *Aconitum carmichaelii*, *A. kusnezoffii*), birthwort (*Aristolochia clematidis*), Bryony (*Bryonia dioica*), wood avens (*Geum urbanum*), orris root (*Iris florentina*, *I. germanica*), kudzu (*Pueraria lobata*),

* **Whole plants with roots:** madder/quia cao gen (*Rubia cordifolia*), celandine (*Chelidonium major*), California poppy, figwort (*Scrophularia nodosa*), *Pulsatilla* *Lactuca vilosa*, lemon balm, peppermint, *Andrographis paniculata*, yellow bedstraw (*Galium verum*), chicory (*Cichorium intybus*),

* **Pressed juice from herb:**

* **Subshrubs in full sun** such as lavender, thyme, hyssop, oregano, garden sage, winter savory, betony, *Genista*, coyote mint (*Monardella odoratissima*), rosemary, horehound, black horehound (*Ballota nigra*), purple sage (*Salvia dorii*), germander, rock rose (*Cistus ladanifer*), dittany/gas plant (*Dictamnus albus*), *Helichrysum italicum*, dittany of Crete (*Origanum dictamnus*), butcher's broom (*Ruscus aculeatus*), Greek sage (*Salvia fruticosa*), cotton lavender (*Santolina chaemacyparissus*), purple sage (*Salvia dorrii*),

* **Flowers from trees and shrubs** such as elderberry, hawthorn, linden, rose, silk tree, Magnolia, Japanese pagoda tree, (*Sophora japonica*), Scotch broom (*Cytisus scoparius*),

* **Fruits and berries** such as elderberry, hawthorn, rosehips, chasteberry, northern prickly ash/toothache tree (*Zanthoxylum americanum*), Japanese peppertree *Zanthoxylum piperitum*), juniper, sumac, Japanese cornel (*Cornus officinalis*), weeping forsythia/lian qiao (*Forsythia suspensa*), Chinese privet (*Ligustrum lucidum*), Spicebush (*Lindera benzoin*), matrimony vine (*Lycium barbarum*), Japanese pagoda tree, (*Sophora japonica*), flowering quince,

* **Tree/shrub leaves** such as ginkgo, silk tree (*Albizia julibrissin rosea*), Labrador tea (*Ledum groenlandicum*), raspberry, blackberry, sassafras, kinnikinnik, barberry, birch, boxwood, chestnut, sweetfern, redroot, *Zanthoxylum americanum*, black currant, sweet fern (*Comptonia peregrina*), beebee tree (*Tetradium daniellii* (was *Evodia*), glorybower (*Clerodendron trichotomum*), hardy rubber tree (*Eucommia ulmoides*), birch (*Betula pendula*), ivy (*Hedera helix*),

* **Twigs with leaves** such as huckleberry, blueberry, European bilberry (*Vaccinium myrtillus*), bayberry, witchhazel, birch, Pacific yew (*Taxus brevifolia*), wintergreen, *Ephedra* species, Spicebush (*Lindera benzoin*), bayberry (*Myrica gale*, *Myrica cerifera*), red alder, birch, Scotch broom (*Cytisus scoparius*), white ash, spicebush, mulberry, broom (*Genista tinctoria*),

* **Stems**, Japanese honeysuckle (*Lonicera japonica*), *Clematis*, maypop (*Passiflora incarnata*), greater periwinkle (*Vinca major*), lesser periwinkle (*Vinca minor*), *Akebia*, Fo-ti (*Fallopia multiflora*),

* **Conifer foliage** such as western red cedar, eastern white cedar, juniper, Pacific yew, Arizona cypress, silver fir, balsam fir,

* **Barks** such as willow, red-osier dogwood (*Cornus sericea*), aspen, cottonwood, eastern black cherry (*Prunus serotina*), chokecherry (*Prunus virginiana*), Amur cork tree (*Phellodendron amurense*), cascara, larch, black cherry, chokecherry, crampbark (*Viburnum opulus*), white oak, English oak (*Quercus robur*), birch (*Betula pendula*), tree of heaven (*Ailanthus altissima*), European ash (*Fraxinus excelsior*), mulberry, gutta percha, prickly ash/toothache tree (*Zanthoxylum americanum*), silk tree (*Albizia julibrissin rosea*), white pine, birch, dogwood, winter's bark (*Drimys winteri*), hardy rubber tree (*Eucommia ulmoides*), Spicebush (*Lindera benzoin*), *Magnolia liliiflora*, *M. officinalis*, *M. virginiana*, bayberry (*Myrica cerifera*), slippery elm, apple, smoketree (*Cotinus coggygria*), horsechestnut, chestnut, button bush (*Cephalanthus occidentalis*), persimmon, wahoo/burning bush

(*Euonymus atropurpureans*), Wafer ash (*Ptelea trifoliata*), beeberry tree (*Tetradium daniellii* (was *Evodia*), sweet sumac (*Rhus aromatica*),

* **Rootbark from trees and shrubs** such as devil's club, mulberry, barberry, redroot (*Ceanothus velutinus* and *C. americanus*), sumac (*Rhus glabra*), Fringe tree (*Chionanthus virginicus*), American ipecac (*Gillenia trifoliata*), matrimony vine (*Lycium barbarum*), tree peony (*Paeonia suffruticosa*), hop tree (*Ptelea trifoliata*), flowering dogwood, white ash, witch hazel, butternut,

* **Shrub/tree roots** such as Oregon-grape, bayberry, barberry (*Berberis vulgaris*), redroot (*Ceanothus velutinus* and *C. americanus*), gravel root (*Hydrangea*), Siberian ginseng (*Eleutherococcus senticosus*), sassafras, wahoo/burning bush (*Euonymus atropurpureans*), Fo-ti (*Fallopia multiflora*), *Sophora flavescens*,

* **Sap, resins, gums** such as cottonwood bud, spruce, fir, sweet gum (*Liquidambar styraciflua*), silver fir, balsam fir, Scotch pine, marijuana (*Cannabis sativa*),

* **Tar oil from bark:** birch (*Betula pendula*),

* **Nuts** such as horse chestnuts, black walnut hulls,

* **Seed** such as burdock, Echinacea, nettles, milky oats, coriander, dill, fennel, sweet cicely (*Myrrhis odorata*), black cumin (*Nigella sativa*), *Osmorhiza*, psillium (*Plantago psyllium*), clary sage, milk thistle (*Silybum marianum*), job's tears (*Coix lacryma-jobi*), ajowan (*Trachyspermum ammi*), She Chuang Zi (*Cnidium monnieri*), ammi (*Ammi majus*), wormseed (*Chenopodium ambrosioides*), evening primrose (*Oenothera biennis*),

* **Straw** such as oatstraw, sweetgrass,

* **Buds of woody-stemmed plants:** cottonwood buds, birch (*Betula pendula*),

* **Gummy buds** such as gumweed,

* **Succulents:** roseroot (*Rhodiola rosea*) *Sedum spathulifolium*), bitterroot (*Lewisia rediviva*), purslane,

* **Lichens** such as *Usnea*, *Lobaria*, *Cetraria*, *Parmelia*,

* **Moxa:** mugwort (*Artemisia vulgaris*), leadplant (*Amorpha canescens*), yomogi (*Artemisia princeps*),

* **Mushrooms/conks;** Robert Rogers' book "*The Fungal Pharmacy* (2011) lists 81 species with medicinal values. I list just a few here. See Rogers' book and other references for the more complete list. Ganoderma, oyster mushroom, reishi (*Ganoderma*), turkeytail (*Trametes versicolor*), chaga (*Inonotus obliquus*), Fomes omentarius, Fomentopsis officinalis, puffball (*Lycoperdon*), ling chi, jelly ear fungus (*Auricularia auricula-judae*), *Agaricus arvensis*, *A. bisporus*, *Bletus*, *Cordyceps*, birch polypore (*Piptoporus betulinus*), lion's mane,

* **Weeds** such as dandelion, wild lettuce, sheep sorrel, shepherds purse, chickweed, plantain, quackgrass (*Elymus repens*), horstail, teasel, garlic-mustard (*Alliaria petiolata*), lawn daisy (*Bellis perennis*), Centaury (*Centaureum erythraea*), Japanese knotweed, chicory, foxglove (*Digitalis lanata*), alehoof/gill-over-the-ground/creeping Charlie (*Glechoma hederacea*), common ivy (*Hedera helix*), henbane (*Hyocyamus niger*), toadflax (*Linaria vulgaris*), loosestrife (*Lythrum salicaria*), pineapple weed (*Matricaria*), sweet clover (*Melilotus officinalis*), evening primrose (*Oenothera biennis*), sulphur cinquefoil (*Potentilla recta*), bouncing bet/soapwort (*Saponaria officinalis*), tansy (for oil) (*Tanacetum vulgare*), puncturevine (*Tribulus terrestris*), ox-eye daisy (*Chrysanthemum leucanthemum*), queen anne's lace (*Daucus carota*), hemp-nettle (*Galeopsis* sp.), herb Robert

(*Geranium robertianum*), ivy (*Hedera helix*), white dead nettle (*Lamium album*), knotweed (*Polygonum aviculare*),

Growing each of these types of medicinal crops calls for different strategies. Some take a long time to come into bearing. Some are easier to maintain than others. Different labor costs.

Groundcovers in shade. North side of houses: wild ginger, ferns, goldenseal, false-unicorn root (*Chamaelirium luteum*), *Aegopodium*, *Petasites*, vanilla-leaf (*Achlys triphylla*), *Anemone sp.*, job's tears (*Coix lacryma-jobi*), yu xing cao (*Houttuynia cordata*), see plants listed in Small-statured, rhizomatous, bed crops in shade.

Shade, forest gardens: *Lilium lancifolium*,

Hot dry sites with well drained soils. *Lomatium dissectum*, bitterroot, balsamroot,

Fragrant flowers: (see almost all of the plants listed for potpourri and essential oils: root beer plant (*Agastache rupestris*), *Artemisia caucasica*, *Daphne sp.*, spicebush, fragrant sumac (*Rhus aromatica*), lilacs, *Ribes odoratum*, *Elaeagnus* species, witch-hazels, *Magnolia sp.*, mock-orange, night-flowering tobacco, jasmine, *Narcissus*, clary sage, lavender, heliotrope (*Heliotropium arborescens*), sweet rocket (*Hesperis matronalis*), pineapple sage (*Salvia elegans*), sweet sumac (*Rhus aromatica*), sweet william (*Dianthus barbatus*), wallflower (*Cheiranthus cheiri*), Chinese yam (*Dioscorea oppositifolia*),

Fragrant foliage or stem-bark: Spicebush, sweet gum, *Chenopodium botrys*, Sweetfern (*Comptonia*), clary sage, lavender, rosemary, *Vitex*,

Accent plants: Lion's tail, (*Leonotis leonurus*), castor bean, *Gunnera*, *Paulownia*, Joe-Pye weed (*Eupatorium purpureum*),

Water plants, bogbean (*Menyanthes trifoliata*), cattails, sweetflag, Iris, wapato, water chestnut, rushes, reeds, Veronica, watercress, cranberry, Lotus (*Nelumbo nucifera*), water lily (*Nymphaea odorata*), azolla, duckweed,

Perennially wet edges: bayberry (*Myrica gale*, *Myrica cerifera*), Bidden species, pennyroyal, skullcap, sundew (*Drosera rotundifolia*), Labrador tea, willow, Korean watercress (*Oenanthe javanica*), job's tears (*Coix lacryma-jobi*),

Functional uses of crops:

The above list focuses on cash crops but each crop's functional uses should also be taken into account when calculating the crop's overall value/usefulness.

Hedges and windbreaks Live fences
Groundcovers Wildlife food/habitat
Pollinator food/habitat Biological pest control
Carbon sequestration Nitrogen fixation
Soil building and soil conservation. Filtering and purifying water
Groundwater filtration. Biodegrades pollutants
Biodiversity conservation. Beauty, aesthetics,
Fragrance
Photosynthesis/oxygen

Farming will increasingly look at serving useful social functions *and* providing ecosystem services *in addition to* crop production. Farmers of the future will consider such things as soil regeneration, widening crop genetics, reliance on locally-adapted cultivars, preserving biodiversity and contributing towards global, carbon-sequestration goals.

The best crops are those which have multiple products and multiple functions.