

# Delights of Diversity

## Medicinal Trees on the Landscape (Zero Medicine Miles) NUNM, Portland OR



### Part 1: From the Ground Up

Cover crop mosaic restarts succession. All the land wants to do is be an old growth forest. Most herbalists grow gardens that become increasingly filled with perennials and then trees.



### **Crimson Clover (*Trifolium pratense*)**

Weed exclusion, improvement of soil fertility, retains moisture.



### **Keep it covered**

Rice straw is probably the best mulch available. Light-textured, usually contains no weed seeds, quickly decomposes into black dirt.



### **Appearance of toadstools a good sign**

These are the kinds of fungi that make mycorrhizal associations with plant roots, resulting in enhanced immunity, improved assimilation of nutrients and better water uptake.



### **Earthworms at work**

Convert carbon to humus, aerate the soil, improve fertility, water retentiveness.



### Planting trees in native (unamended) soil

Soil must not be amended before planting trees. Allow the taproot to go down unimpeded into the mineral soil, then improve the soil surface through mulching, cover-cropping, Comfrey (*Symphytum officinalis*).



### Dangle roots straight down

Taproots will delve down, feeder roots will move out horizontally to the drip line.



Mulch



Caged against deer, ready to grow!



### Snips

It is truly amazing what a gardener can accomplish with this one tool.



Red Peony (*Paeonia obovata*) before the snips



Red Peony after the snips



Wormwood (*Artemisia absinthium*) before the snips



**Wormwood after the snips**



**Tree shelters plants**

Three species voluntarily jumped pot and planted themselves under this pine tree—a Cowslip (*Primula veris*), an American Mayapple (*Podophyllum peltatum*) and a Solomon's Seal (*Polygonatum biflorum*).



### Forest Medicinals

Flowering Black Cohosh (*Cimicifuga racemosa*) along a well-treed fenceline



### Plant trees, people, for the love of the earth.

This tree farm in Rumeruti, the highlands of Kenya, was inspirational to me.



Our version, shade structure at Strictly Medicinal Seeds.



Use of shrub emitters—night watering, accentuated dewpoint, water conservation.



## Part 2: Medicinal Trees, the Big Herbs

Taxonomy, pharmacognosy, preparations, uses, preferred habitat, herbalscaping, seed saving and propagation.



## Weeping Willow (and other Salix species)

Family: Willow (Salicaceae)

Zones 4 to 10

Fast-growing perennial tree to 50 feet, native to China.



### **Willow bark medicine**

The bark easily slips in the spring and may be removed in quills. The bark is a source of salicylates, flavonoids and tannins which have an antiinflammatory and analgesic activity. Used for treating headache, joint pain, lower back pain, menstrual cramps, influenza and rheumatic pain.



**Quills of willow bark.**



### **Willow tea manufacture.**

Hormone (IBA, in the Auxin family) tea made by whipping willow tips in water over a period of a few days, used for stimulating germination of seeds and formation of roots on soft and hardwood cuttings.



### **Weeping willow cuttings rooted.**

A stimulant to its own growth, easily cloned. The water used for sprouting the cuttings may be used as a rooting hormone for cuttings.



### **Linden, Little-leaf Lime (*Tilia cordata*)**

Family: Mallow (Malvaceae), also Tilia (Tiliaceae)

Zones 2 to 8

Deciduous tree to 70 feet tall, with a handsome, dense, round crown. Will tolerate sun to part shade and prefers to grow in deep, moist, rich soil. Tends to host plenty of honeydew-producing aphids. Propagation is usually by seed. My experience is that about 1% of seeds are viable, the rest being empty testa.



### **Linden leaves are delicious**

Agreeably flavored and delightfully mucilaginous, they are a favorite of deer and are edible by people. The effect is to soothe digestion and bulk the stools. The bark and wood may be slow-burned in a low-oxygen environment to produce pharmaceutical charcoal used to absorb and neutralize gastrointestinal toxins.



**“Lime Tree” (Tilia spp.)**

Tree has wildlife and pollinator value, producing copious nectar that is relished by bees. The bees in turn produce a singularly aromatic honey from the blossoms.



**Linden medicine consists of the flowers and bract**

Pick at peak maturity and promptly dry on screens in the shade. Store dried herb out of the light, in a sealed container, and refrigerate.



### Linden flower medicine

Linden tea is full of detoxifying flavonoids, diaphoretic volatile oils and mucilage that soothes the digestion. Coumaric acid is partially responsible for the vasodilating and hypotensive effects.



### Chinese Bitter Orange (*Poncirus trifoliata*)

Rue family: Rutaceae Also Citrus family.

Zones 6 to 9

Thorny perennial bush to small tree, native to China. Most northern hardy citrus. Sweet flowers, useful fruits, thorns protect songbirds, impenetrable hedging.



### **Chinese Bitter Orange fruits.**

Chinese herb Jian-zhi-ke, sliced dried fruits source of volatile oils, flavanoids, alkaloids, vitamin C. One of the Chinese herbs that promotes the flow of Qi. Bitter, acrid, slightly cold. Reduces abdominal distention, wind, intestinal blockage, used for treating uterine prolapse.



### **Seeds must be fresh to work.**

Sow as soon as ripe. Cold pretreatment improves germ.



Seedlings after about 6 months.



**Eleuthero (*Eleutherococcus senticosus*)**

Family: Ginseng (Araliaceae)

Zones 3 to 7

Woody perennial spiny shrub to small tree, rhizomatous woodland dweller, native to North Korea, northern China and Siberia.



Early spring leaf cluster of Eleuthero.



**Eleuthero ramets on the forest floor**

Any ramet that has some root hairs will transplant. This is the main way of increase, as propagation from seed is relatively difficult.



**Eleuthero ramets with rhizomes**



### **Eleuthero medicine**

Chinese herb Ci-wu-jia, dried root bark source of glycosidal compounds Eleutheroside B and E. The classic energising adaptogen helps prevent adrenal burnout, delays exhaustion, normalizes heart, circulation and blood sugar, prevents side effects of radiation and chemo.



**Cascara Sagrada (*Rhamnus purshiana*)**

Family: Buckthorn (Rhamnaceae)

Zones 6 to 10

Small to mid-sized deciduous tree native to the western states.



**Leaves and buds of Cascara Sagrada.**



### **Cascara Sagrada medicine**

Bark is slippery in springtime and may be readily peeled from inner wood. Bark must be cured for a year before use. Source of anthraquinone glycosides including emodin. Laxative, softens stool and increases peristalsis, requiring about 6 hours to act. Best for short-term use.



### **Readily grown from seed**

Flotation process converts smashed berries to free seed.



### Seed of Cascara Sagrada

Empty seedcoats are a common phenomenon, decoys against bird predation.



### Horse Chestnut (*Aesculus hippocastanum*)

Family: Soapberry (Hippocastanaceae)

Zones 3 to 8

(Conker Tree) Native to the Balkans in Southeastern Europe, a stout deciduous tree to 90 feet tall. One of the prettiest hardwoods one could imagine.



**Resiny spring bud of Horse Chestnut**

Fresh or dried leaves, bark, and especially fruits are also used.



**Horse chestnut flower appears in May**



Flowers give way to pendant fruits



**Sprouting conker. The nut is the main medicine.**

Source of saponin known as aescin, providing a venotonic effect for the treatment of varicose veins, leg ulcers, tired and painful legs, thrombophlebitis, swollen lower legs and ankles, hemorrhoids. Best used externally, small doses may be taken internally to good effect. Aesculin, a coumarin glycoside, is toxic.



**Seed-grown Horse Chestnut trees in nursery**

Taprooted.



**Slippery Elm (*Ulmus rubra*)**

Family: Elm (Ulmaceae)

Zones 3 to 7

Deciduous tree native to Central, Eastern and Southern United States and Canada. Excellent shade tree. Will repopulate abandoned farmland.



**Slippery Elm branch**

Readied for extraction of bast.



**Outer bark rossed off.**



**Method for stripping the bast.**



**Quills of bast (inner bark) are the medicine.**

The chaw that keeps on giving, a source of nutritious mucilage, tannins and minerals. Used for treating sore throat, coughs, bronchitis, inflammation of stomach, small intestine of colon. Infant colic, dysentery, ulcers, inflammatory bowel, ulcerative colitis, Crohn's. The mucilage smoothes and replenishes mucous membranes, absorbs toxins and removes them, nourishes immunity.



### Winged seeds of Slippery Elm

Appear before the leaves. Difficult to reach and subject to damage from frost, hail and wind, they are also a favorite food of squirrels, therefore quite difficult to gather in quantity. Spontaneous seedlings may occur below the tree.



### Slippery Elm seed germination

Note that the larger seedlings germinated within 30 days of planting, and the smaller seedlings germinated the following spring.



### Slippery elm seedlings

Ready for potting up.



### Witch Hazel (*Hamamelis virginiana*)

Family: Witch Hazel (Hamamelidaceae)

Zones 3 to 8

Woody perennial bush to small tree native to the Eastern US. A sturdy and handsome addition to the medicinal landscape, with a multi-stemmed habit.



Early spring leaf sprouts and swelling seed capsules



### **New leaves and twigs, the medicine**

Source of gallotannis and essential oils (carvacrol and eugenol), witch hazel extract, tea, tincture or poultice is the quintessential astringent. Antiinflammatory and hemostatic, used externally or internally for arresting bleeding, also diarrhea and dysentery. Varicosities and spider veins, perineal stitches, hemorrhoids, stings, venomous bites.



### **Black Elderberry (*Sambucus nigra*)**

Family: Honeysuckle (Caprifoliaceae) (also Adoxa, the Adoxaceae)

Zones 4 to 7

Perennial, deciduous, multistemmed bush to small tree native to Europe. Much of the world supply comes from Eastern European nations.



### **Black Elderberry medicine**

Colds, flu, immune enhancement. Source of anthocyanins, bioflavonoids, and antiviral proteins. Treats influenza A and B strains, herpes simplex and HIV. Strengthens cell membranes to disallow viral penetration. Seeds contain hydrocyanic acid and sambucine, rendered harmless by cooking, normally removed from herbal preparations at an early stage of processing.



**Black elderberry harvest.**



**Solar dehydration of Elderberries**

Free energy from the sun. Zero medicine miles.



### Elderberry syrup

May be made from fresh or dried elderberries. Remove seeds. Reduce the juice on low heat at the back of the stove until thickened, then preserve back with equal volume of honey or glycerine.



### Black Elderberry seedlings

Seeds are a byproduct of elderberry syrup manufacture. They may be planted immediately in deep flats and left in the shadehouse. Germination is in the spring of the following year.



### **Wild Hawthorn (*Crataegus monogyna*)**

Family: Rose (Rosaceae)

Zones 4 to 8

Small to mid-sized deciduous thorny bush to small tree. May be kept trimmed back as a hedge or given space to attain full size.



### **Hawthorn Berry medicine**

Fresh or dried berries are a source of oligomeric procyanidins, flavonoids, vitamin C. This is the premier tonic remedy for the cardiovascular system, normalizing heart rate, increasing coronary blood flow, used in cases of arrhythmia, angina, palpitations and heart failure. Recuperation from heart attack, weak heart, heart surgery, shock, love lost.



### Drying Hawthorn berries

Berries must be picked after the first frost when they begin to soften, otherwise they will never dry.



### Hawthorn leaf and flower medicine.

Optimal stage for harvest of leaf and flower is when the buds are barely opening, on a warm and dry day, usually in May. The leaves and flowers are higher in tannins but act similarly to the berries, a specific for treatment of varicosities, ulcerations and arteriosclerosis.



### **We all are trees**

Tree air to breathe  
Drink of their water  
The humus of their leaves  
Holds the earth together.  
We are all trees.