

High Falls Gardens
BOTANICAL STUDIES IN ORIENTAL MEDICINE

2010 Seed Distribution

Students and teachers participating in the Botanical Studies program will receive priority for seeds this year. Qualified farmers/growers may order up to 12 packet of seeds – first come, first served. Email hfg@capital.net to order. Please identify items by both number and name.

Order Deadline April 30, 2010 – NO EXCEPTIONS!

Notes: (a) The Pinyin names refer to the processed medicinal part of the plant, not the species itself. We use this “shorthand” as a convenience to students of Oriental Medicine. (b) Hardiness zones are estimates.

Note to beginners: Almost nothing on this list is direct-seeded, i.e., the seed planted directly into the ground. Horticultural practices for perennial plants yield the best results. Accordingly, plant seeds into a small pot or flat using methods A, B, or C, described at the end of this list. Sprouts are grown under strong indirect light or grow-lights until well after the first true leaves appear. Gently separate seedlings and transplant them to individual pots. Maintain in greenhouse-like conditions from one to six months or more, then transplant into the garden.

2751

Achyranthes bidentata (Amaranthaceae) -- huái niú xī

HFG Harvested: 10/23/08 *Original source:* #1724 RN Yantai wild

Known as “ox-knee” because of the swellings at the stem nodes. Fast-growing, forms a bush of several stems 30 inches in height. Marginally hardy north of Zone 5, can be grown as an annual. The stems are green, tinged with red, and there is also a red-stemmed variety. Responds to composting, needs moisture and good drainage. The seeds have a hook that makes them stick to clothing when harvesting.

Germination: Method A or B. Transplant radius 24 inches.

2718

Agastache rugosa (Lamiaceae) – tǔ huò xiāng

HFG Harvested: 10/23/08. *Original source:* #2086 Horizon

“Local” Huo Xiang, also known as Korean mint, this species resembles its cousin, anise hyssop or *Agastache foeniculum*. Perennial in Zone 6 and warmer, can also be grown as an annual. Dark green, highly aromatic leaves with reddish purple spikes, forms a sturdy 2 to 3-foot bush. Needs adequate moisture and fertilization for a leaf crop. Attracts bees and other pollinators, decorative. **Germination:** Method A or B. Transplant radius 18 inches.

2948

Alisma orientale (Alismaceae) – zé xiè

HFG Harvested: 10/06/09. *Original source:* #1984 RN Nanjing Pharm Univ

or

2692

Alisma orientale – zé xiè – RN Collection ‘07

Asian water plantain, to 2 feet high, grows near the water’s edge or in up to 10 inches of water. Hardiness in Zone 5-6 not yet tested. Can grow indoors in muddy soil in a container without drainage. Whorled panicles of creamy white to pale rose, three-petalled flowers that open in the afternoon. Rosettes of upright, lanceolate leaves. Plant only in well-contained water gardens. **Germination:** Method A, press

seed into soil surface, immerse entire pot into a slightly larger pot without drainage, fill until water is visible at soil surface, keep filled and at 65-70° F. May take several weeks to a few months to germinate.

2694

Allium macrostemon (Liliaceae) -- **xiè bái** – RN Collection '08

Could be *A. macrostemon* var. *uratense*. This hardy species is used for the onion bulb, while *A. tuberosum* is used for the seed. The plant is sometimes called Chinese garlic, but is not culinary garlic (*A. sativum*). Traditionally it was wildcrafted. The scapes can reach 24-30 inches in height. Pale red-purple flowers and seeds appear in late spring to early summer. Cut seed heads before ripening at onion-friendly sites. Zones 3-10. **Germination:** Method A or B. Transplant radius 6 inches.

2966

Allium tuberosum (Liliaceae) -- **jiǔ cài zǐ** – Daoist Traditions Gardens, harvested 9/29/09

Chinese leek seeds, or sometimes listed as Chinese chives. This is a cultivated species, but is not scallions or bunching onion (*A. fistulosum*, *cōng bái*). Scapes to 24 inches high, flowers white with a green or yellowish-green midvein. Clump-forming, may re-seed prolifically so be sure to harvest promptly when the seeds ripen. Zones 3-10. **Germination:** Method A or B. Transplant radius 18 inches.

2720

Anemarrhena asphodeloides (Liliaceae) -- **zhī mǔ**

HFG Harvested: 11/04/08. *Original source:* #1178 RN IMPLAD

An expanding clump of rhizomes that gradually spreads into a ring shape like an iris. Sprouts long, grass-like leaves each year plus 3 to 5 longer (48-inch height) flower stalks which bear insignificant purplish blooms and brown seed capsules. Black seeds ripen sequentially August to November. Easy and pest-resistant. **Germination:** Remove black seeds from capsules. Method A or B, 7-14 days. Transplant seedlings into individual small pots and let them grow for a few months before planting outside. Planting radius 24 inches. May propagate older plants by removing the leading inch of rhizome with a few roots attached, then replanting.

2659

Aristolochia debilis (Aristolochiaceae) -- **mǎ dōu ling** – RN Collection '06 & '07

Although classified as an “obsolete substance,” this and other *Aristolochias* are of academic interest. The plants help us to understand group characteristics, make comparisons and identify adulterants. Birthwort fruit plant is a twining vine with smooth arrowhead-shaped leaves. In midsummer, a purple trumpet flower grows out of a spherical organ (utricle) that becomes the round seed capsule, 1-2 inches in diameter – the “horse’s hat bell.” Zones 7-9, hardiness not yet tested at HFG. **Germination:** Method B. Transplant seedlings into individual small pots and let them grow for a few months before planting into the garden. Planting radius 18 inches.

2723

Asparagus cochinchinensis (Liliaceae) -- **tiān mén dōng**

HFG Harvested: 11/03/08, *Original source:* #734 RN Japan

Resembles asparagus fern houseplant; has thorns. Herbaceous but cold hardy. Benefits from 2-3 foot support structure for its 4-5 foot long fronds, more of which appear each year as the plant matures.

Germination: A long cycle germinator, 15-18 months or more; needs work to see if cycle can be abbreviated. (Division of underground tubers an alternative method of propagation.) Remove pulp from round black seeds, use Method B, allow temperature fluctation. Planting radius 18 inches.

2949

Astragalus sp. (Fabaceae) -- **shā yuàn zǐ?** (not verified)

HFG Harvested: 8/31/09, *Original source:* #2477 RN germinated from pharmacy material.

This perennial is a beautiful astragalus plant – the most decorative we have seen -- but the seeds do not match the description of shā yuàn zǐ in the references. These seeds are flatter and tan-colored. The plant is 18-20 inches high, the bipinnate leaves are feathery and the overall texture is fern-like. Pink-purple, cloverlike blooms in June are followed by August seed pods in clusters. The identity may not be correct, but it's a beauty and we're planting more! **Germination:** Pre-soak 8 hours, use Method A or B.

2752

Astragalus membranaceus (Fabaceae) -- huáng qí

HFG Harvested: 11/11/08, *Original source:* #688 RN Beijing

Perennial legume, 30-36 inches in height with yellow flowers blooming in midsummer followed by pea-like pods. Each year it throws up 6 to 10 tough stalks that should be cut back to the ground in autumn to clear the way for next year's growth. Can be propagated by dividing the crown in autumn. **Germination:** Method C. Seedlings should be very robust before transplanting. Protect first-year transplants against mice, voles, shrews, etc. -- they like a qi-boost too! Planting radius 36 inches.

2725

Belamcanda chinensis (Iridaceae) -- shè gān

HFG Harvested: 10/23/08, *Original source:* #124 Shooting Star Nursery

Widely available in commerce as an especially dramatic ornamental. Sword-shaped yellow-green leaves, orange red-spotted flowers in July and August on stalks 36 inches high followed by shiny black seeds in September. Mulch with small rocks to prevent the stems from flopping over late in the season.

Germination: Method A. Transplant seedlings into individual small pots and let them grow for a few months before planting into the garden. Planting radius 36 inches.

2726

Bupleurum chinense (Apiaceae) – chái hú

HFG Harvested: 9/14/08 *Original source:* #2182 RN China '03

or

2753

Bupleurum scorzonerifolium -- chái hú – *HFG Harvested* 11/11/08 *Original source:* RN/Japan

or

2698

Bupleurum sp. – zhú yè chái hú – RN Collection '08

In our garden Bupleurum forms a delicate, airy umbelliferous plant, 18-36 inches in height, with tiny yellow flowers and viable seed. In warmer climates the form can be more of a substantial bush. Different forms are recognized, i.e. “bamboo-leaf“ chái hú. In the wild, the plant often grows on sides of paths, often on hillsides, generally among the grasses—so it likes good drainage and dislikes too much damp. Zones 6-9. **Germination:** Method A or B.

2184

Cassia tora (Fabaceae) – jué míng zǐ -- RN China '03

A relative of native wild senna (*C. marilandica*), this long season annual in the pea or legume family grows to about 3 feet in height. Yellow flowers appear in late summer followed by long curved seedpods. Zones 6-9. **Germination:** Method A or B. Planting radius 18 inches.

2729

Clematis chinensis (Ranunculaceae) – wēi líng xiān

HFG Harvested: 10/26/08, *Original source:* #1024 RN Nanjing BG

This woody climber needs the support of a trellis or tripod, as it can grow to ten feet. Closely resembles “sweet autumn clematis.” Masses of small white starry flowers bloom in autumn, followed by honey

brown seeds with one white feather attached. Zones 5-9. **Germination:** Method B. Plant 2 or 3 seedlings one foot apart at the base of a trellis.

2731

Codonopsis pilosula (Campanulaceae) -- **dǎng shēn**

HFG Harvested: 11/04/08, *Original source:* #213 RN.

“Poor man’s ginseng.” A twining, climbing bellflower, 10-12 feet in length, that benefits from being trained to a trellis or tripod. The foliage and root have a distinct, pleasant aroma. Prefers moist, cool conditions and a bit of shade. Zones 4-7. **Germination:** Method B, sow thinly and do not cover with potting medium. Transplant frail seedlings into individual small pots and let them grow for a few months to a year before planting outdoors. Planting radius 12-18 inches.

2660

Cnidium monnieri (Apiaceae) -- **shé chuáng zǐ** – RN China ‘08

An annual, this pretty carrot family plant grows only 12-24 inches in height but forms a soft swath of delicate, lacy foliage if planted in a group. The umbel of white flowers is flat, resembling Queen Anne’s lace but smaller, giving way to brown seeds rather quickly. The seed heads can shatter in dry conditions and should be collected regularly; reseeding will occur under favorable conditions. Grow in full sun. Zones 4-9. **Germination:** Method A or B. Planting radius 6-12 inches.

2952

Dianthus amurensis (Caryophyllaceae) – **qú mài**

HFG Harvested: 12/04/09, *Original source:* #261 RN

A carnation relative or “pink” from the Amur River region. Perennial, likes rock garden conditions (sunny, hot, with well-drained soil). Grows to 18 inches in a floppy, grass-like clump. Lavender-pink frilly flowers bloom from July to September. Zones 4-9. **Germination:** Method A or B. Planting radius 12-18 inches.

2555

Dioscorea opposita (Dioscoreaceae) – **shān yào** – Daoist Traditions Gardens, harvested 9/15/09

Synonymous with *D. batatas*. Herbaceous, hardy to Zone 5, this plant is hard to kill. Needs tripods or similar support for prolific climbing vines, to 15 feet and more. We use it as a Japanese beetle trap crop. These “seeds” are the brown, edible aerial tubers which resemble miniature potatoes, are edible and will self-sow freely if not harvested. **Germination:** Method A.

2954

Dioscorea tokoro (Dioscoreaceae) – **bì xiè**

HFG Harvested: 11/01/09, *Original source:* #642 RN Japan BG

This is tokoro, the fish-poison yam rhizome, a vigorous vine once established. Not as weedy as the *D. opposita*, and does not bear aerial tubers. In leaf shape, flower and fruit, tokoro resembles the native American yam, *D. villosa*. Tokoro bears masses of tiny cream-colored flowers in airy racemes in July, then light brown, papery winged capsules with seeds inside. **Germination:** Remove seeds from capsule, use Method A or B, lightly cover with potting medium.

2700

Dipsacus asperoides (Dipsacaceae) – **xù duàn** – RN Collection & Learning Garden ‘08

Perennial, but may be grown as an annual in the north. The teasels are decorative with their globe-shaped flowerheads nodding on long stalks. From a deep-green, complexly-serrated basal clump, the ridged rough stems can be 5 to 6 feet tall. The cream-colored flowers bloom in late summer, with seeds ripening as late as December. This plant grows along the margins and in thickets, stands up well to dense planting, can be in full sun or part shade. Zones 7-10. **Germination:** Method A or B. Planting radius 18 inches.

2556

Glycyrrhiza pallidiflora (Fabaceae) – **cì guǒ gān cǎo**

HFG Harvested: 9/12/07, *Original source:* #1440 RN Turpan BG

Although mentioned in Bensky only as an adulterant for ku shen, huang qi and gan cao, this species is listed in Chinese sources as an herb in its own right. The fruit is used to promote lactation and the root to kill parasites. A tall (4 feet), sturdy, prickly herbaceous bush, the plant produces multiple stems and grows more robust each year. The foliage has a unique, tantalizing aroma. Pale yellow flowers are followed by bristly seed pods in fat brown clusters. **Germination:** Remove seeds from pod, then use Method C. Planting radius 24 inches.

2662

Heracleum hemsleyanum (Apiaceae) -- **dú huó** – RN Collection '08

This genus of 60 species, the hogweeds, shares many characteristics of the Angelicas, the Peucedanums and other umbelliferous medicinal plants. The North American analog species is *H. lanatum* (=maximum), commonly known as cow parsnip. The *H. hemsleyanum* grows 4-5 feet tall with a single stem, broad and deeply lobed leaves, white umbels of flowers borne in late spring, and spindle-shaped roots. Like its cousins, it prefers cool, shady and moist conditions. Zones 4-9. **Germination:** Use method B with fresh seeds lightly pressed into the surface of the potting medium. Vary temperature every 3-4 weeks between 70° and 40°F until germination occurs. May be kept in individual pots for a year before setting out.

2957

Inula helenium (Asteraceae) – **tǔ mù xiāng**

HFG Harvested: 11/01/09, *Original source:* Stonecrop

This elecampagne is a decorative full-sun perennial with large (15 inch long) softly hairy leaves. The sturdy stems can grow to 6 feet tall, the yellow flowers with narrow ray petals bloom along the upper part of the stem, and last practically all summer. Zones 5-9, widely cultivated in China. **Germination:** Method A or B, do not cover seeds with potting medium, keep at 65-70° F. Planting radius 18 inches.

2969

Isatis indigotica (Brassicaceae) -- **běi bǎn lán gēn** – Finger Lakes NYCC Garden, harvested 10/27/09

Woad is a biennial that forms a 12-inch basal clump of smooth, blue-green leaves in its first year. Responds to rich soil, susceptible to predators affecting the brassicas (cabbage family). In early spring of the second year, the plant sends up 20-inch, bright yellow flower stalks, which ripen over several weeks to dark brown, flat seeds. For medicine, harvest the root before the plant send its energy into the flower stalk. **Germination:** Method A, 7-14 days.

2663

Juncus sp. (Juncaceae) -- **dēng xīn cǎo** – RN China '08

Species identity is uncertain, could be *J. effusus*. The common rushes are found throughout wet areas in the temperate zones and have many uses, such as woven tatami mats. The white pith is used for lantern wicks, also medicinally. Clump-forming with a creeping rhizome, the plant can grow to three feet or more in height. The stems are reddish or chestnut brown, heavily tufted. In spring, the inconspicuous flowers seem to grow right out of the side of the stem and are followed by seed capsules. Zones 6-9. **Germination:** Use method B. If grown in pots, immerse the pot in a larger container of water.

2959

Leonurus sibiricus (Lamiaceae) – **yì mǔ cǎo**

HFG Harvested: 11/01/09, *Original source:* #602 RN.

The Siberian form of motherwort has naturalized in our garden, and ranges free but seems to retain its distinctive, 3-4 foot spikey shape. The motherworts could become pesty, but in our garden control is

straightforward: we harvest the basal clumps in spring or fall, dry them and enjoy wonderfully aromatic Yi Mu Cao. Try this one in Zone 3. **Germination:** Method A or B. Planting radius 12 inches.

2967

Lithospermum erythrorhizon (Boraginaceae) -- **zǐ cǎo** – Daoist Traditions Garden, harvested 9/29/09

This shrubby member of the borage family, 2 to 3 feet tall, is herbaceous and hardy to Zone 6. The roots are dark red and bleed purple. Small white flowers are followed by white or off-white hard nutlets less than 1/8th inch in diameter. **Germination:** Method B, may go into dormancy quickly and then take a long time to germinate. Planting radius 12 inches.

2759

Luffa cylindrica (Cucurbitaceae) – **sī guā luò**

HFG Harvested: 11/11/08, *Original source:* #2636 commercial

Just in case your garden is missing this one, here's a reminder of the Chinese medicinal herb that also works as a good scrubbing sponge. An annual with classic squash foliage and yellow flowers, the seed is widely available commercially. Vigorous climber to 15 feet, needs sturdy support so fruits hang down and grow straight. Fruits must be allowed to dry thoroughly before peeling to make sponges. Lots of fun. Zones 5-9. **Germination:** Method A. Planting radius 18 inches.

2743

Patrinia scabiosaefolia (Valerianaceae) – **bài jiàng cǎo**

HFG Harvested: 10/23/08, *Original source:* #1301 Stonecrop

A hardy ornamental, readily available commercially, with incised, deep green basal foliage to 2 feet in height. Flower stalks to 4 feet in late summer bear panicles of bright acid-yellow flowers through October. Beautiful, but a magnet for deer. **Germination:** Method A or B. Planting radius 18-24 inches.

2767

Phellodendron chinense (Rutaceae) – **huáng bǎi, huáng bō luó guǒ**

HFG Harvested: 12/16/08, *Original source:* Forest Farm

“Yellow fir,” a tree to 30 feet in height, hardy to Zone 4. The inner bark and roots are chrome yellow. After a few years of growth, the tree bears aromatic black fruit which also has medicinal properties recognized in China. **Germination:** Soak fruits and remove seeds. Use Method A or B, expose to varying temperatures, and be patient. Caution: *Phellodendron amurense* is on the PCA alien invasive species list. Harvest all fruit so birds do not distribute. Monitor closely, especially in warmer regions.

2665

Phytolacca acinosa (Phytolaccaceae) – **shāng lù** – RN Collection '08

This Asian analog to poke weed is more refined and decorative in the garden than the wild American, with smooth, apple-green leaves and lovely greenish-white flowers held erect. It may grow to five feet tall but is more compact than poke. Flowers in May or June, with fruiting later in summer into fall. The berries are purplish-black, the roots cone-shaped. Benefits from moist conditions and fertile soil. Zones 5-9. **Germination:** Break seed clusters apart, soak fruit briefly, use Method A or B.

2962

Platycodon grandiflorus (Campanulaceae) – **jié gěng**

HFG Harvested: 11/01/09, *Original source:* Wild collected Russian Far East expedition 1998

“Balloonflower,” a beautiful ornamental that's been in commerce for many years, but this seed is from wild plants in Kamchatka. Late to emerge in spring, the plant forms a clump of several stems to 2 feet in height, becoming more robust each year. The wild species has a blue flower and is smaller than the cultivars. Zones 2-10. **Germination:** Method A or B. Seedlings are slow growing and should be

transplanted in individual pots and maintained for several weeks or months before setting out. Fall planting of seedlings is appropriate. Self-sows under moist conditions.

2708

Polygonum bistorta (Polygonaceae) -- **quán shēn** – RN Collection ‘08

This buckwheat family perennial with erect stems, 20-30 inches in height, inhabits slopes and meadows. The smooth leaves take on brown or red tones in addition to green, with pinkish white terminal flowers in early summer and seeds in late summer. The dark brown rhizomes are large, up to an inch in diameter. Zones 4-9. **Germination:** Method A or B. Planting radius 12-18 inches.

2757

Sanguisorba officinalis (Rosaceae) -- **dì yú**

HFG Harvested: 11/11/08, *Original source:* #189 RN Collection

Clump-forming perennial to 36 inches in height with taller slender stalks and rose-red terminal flowers like Q-tips in September. Likes bog garden conditions: cool, moist acidic soil. Hardy to Zone 4.

Germination: Method B. If germination does not occur in one month, keep cool (40° F) for a few weeks.

2670

Sparganium stoloniferum (Sparganiaceae) -- **sān léng** – RN Collection ‘08

Burr reed, a common water or marsh plant with creeping rhizomes. Two to four feet tall with erect stems and long straplike leaves, the plant has branched panicles that flower and fruit throughout the spring and summer. This is widely distributed in temperate wetlands from Yunnan to Mongolia. Plant only in well-contained, shallow water gardens. Zones 4-9. **Germination:** Method A, press seed into soil surface, immerse entire pot into a slightly larger pot without drainage, fill until water is visible at soil surface, keep filled and at 65-70° F.

2963

Schisandra chinensis (Schisandraceae) -- **wǔ wèi zǐ**

HFG Harvested: 10/10/09, *Original source:* #963 Forest Farm.

A dioecious (separate male and female plants) woody vine, “magnolia vine” bears fruit on old wood. This means that the vines set buds in autumn. Although the rootstock is hardy to Zone 4, buds are susceptible to low winter temperatures. Vines grow slowly and need to be established at least three years before they flower. Flowering occurs in late spring, then the fruits form in clusters resembling small Concord grapes which slowly turn bright red over the summer. We support our vines on 8-foot bamboo tripods, but they can be espaliered on a low fence or trellis like grapevines. **Germination:** This seed has been presoaked to remove pulp. Use Method B. Grow in pots for 2 years until plants are robust with strong roots. Plant several 12 inches apart at the base of a support.

2747

Scutellaria baicalensis (Lamiaceae) -- **huáng qín**

HFG Harvested: 10/23/08, *Original source:* #2069 RN China ‘03.

Baikal skullcap is an ornamental, purple-flowered plant that prefers rock garden conditions (dry, alkaline, very well drained soil), and does not tolerate any standing moisture. Low growing, 12-18 inches in height, it can sprawl to three feet in width under favorable conditions. In the wild, grows on dry hillside slopes. Takes two to three years to attain mature size. Dislikes root disturbance when very young. Zones 4-9. **Germination:** Method A or B. Planting radius 18 inches.

2712

Sophora flavescens (Fabaceae) -- **kǔ shēn**

HFG Harvested: 8/15/08, *Original source:* #36 RN UCB

or

2713

Sophora flavescens -- kǔ shēn – RN Collection '07

or

2714

Sophora flavescens -- kǔ shēn – RN/Learning Garden '08

A perennial, herbaceous, 4 to 5-foot-high, sturdy leguminous bush with pale yellow flowers and long, ornamental dark-brown seed pods. Can be propagated by dividing the crown of a mature plant. Cut back dried stalks in autumn. Zones 5-9. **Germination:** Remove seeds from pods, nick seed with sharp knife, soak overnight or 9 hours, use Method A. Planting radius 36 inches.

2964

Talinum paniculatum (Portulacaceae) -- tǔ rén shēn

HFG Harvested: 11/23/09, **Original source:** #1974-75 Stonecrop

Listed as an adulterant to Ren Shen, but this one is just for fun. Highly ornamental annual (tender perennial) known as Jewels of Opar, 12-18 inches high with fleshy bright green to yellow-green leaves and panicles of rose-red flowers that form shiny seed balls. A choice deer snack, you can protect with remay or netting after setting out. Seedlings will overwinter indoors, and it can work as a houseplant.

Germination: Method B. Planting radius 12 inches.

2965

Trichosanthes kirilowii (Cucurbitaceae) -- guā lóu rén etc.

HFG Harvested: 11/02/09, **Original source:** #1071 RN

A vigorous perennial cucumber with lacy, fragrant white flowers and softball-sized green fruit ripening to yellow in late October. An understory plant, tolerates part shade but loves heat and moisture. At maturity, in late spring sends out half a dozen or more 20-foot, fast-growing vines from its crown. Needs strong support or trellising—this is helpful in order for the plant to flower and produce fruit. Plants are dioecious—male and female flowers are on separate plants, so you need several plants in an area to make sure of fruit production. Zones 5-9. **Germination:** Method A with good bottom heat, 15-21 days.

Planting radius 18 inches apart at the base of a trellis, or one at the base of each tripod leg.

2715

Zanthoxylum armatum (Rutaceae) -- huā jiāo – RN Collection '08

A prickly ash tree (shrub), approximately 15 feet in height, with a wide range throughout southern Asia north to Japan and Korea. Flowers in early spring, fruit in late summer. Hardiness not tested at HFG.

Germination: Method B, move flats from 70° to 40° F or set outdoors for variable temperature. Shrubs and trees should be kept in deep, narrow pots for 1-3 years before planting, especially in northern areas.

NOTES: All species are herbaceous perennials and need full sun unless otherwise noted. All prefer a gravelly or sandy, well-drained, slightly alkaline soil with low organic content unless otherwise noted. Be very conservative with soil amendments and/or compost -- medicinal plants, unlike vegetable crops, often have higher potency if grown slowly under lean conditions.

Perennials grow slowly after germination, compared to annuals, and should be nurtured as seedlings until robust enough to plant in the garden. As a rule, perennial seedlings should be separated well after their first true leaves appear, transplanted into individual small pots, and kept indoors or in a protected space for several weeks to a few months before planting in the garden. The root mass of the transplant should be substantial without being pot-bound (roots winding around inside the base of the pot).

Germination Method A

Plant seeds, evenly spaced, in a flat or small pot of light potting soil. Cover with potting soil or sterile medium such as Vermiculite to depth of the seed's diameter. Place flats over a heat source or in temperatures of 75-80 degrees F. Water very gently. (Ideally, water from the bottom with rainwater until surface appears moist.)

Germination Method B

Prepare clean flats or pots filled with light potting soil as follows: flood surface with boiling water and let drain, repeat twice. Let cool to room temperature. Plant seeds, evenly spaced, on cooled prepared surface. Do not cover if seeds tiny, otherwise cover very lightly with sterile potting medium. Enclose entire pot in a clean Baggies brand plastic bag, tie loosely with twist tie. Place under gro-lites, fluorescent lighting or in bright but indirect sunlight. (Sunlight will burn seedlings.) The room temperature should be 70-80 degrees F. This method does not require watering, but check every few days. Seedlings can remain inside bag until large enough for transplanting. Seeds that may have gone into dormancy (i.e., Aralia, Prunus, Schisandra, Asparagus) may take a long time to germinate. In this case, the bagged pot may be moved outside into the shade so that the temperature will fluctuate.

Germination Method C

Abrade seeds by rubbing lightly between two pieces of sandpaper. The idea is to scratch the seed surface. Soak in room temperature water for 24 hours. Remove the seeds that are swollen, and plant according to Method B, covered with a quarter inch of sterile medium, in room temperatures of 75-80 degrees F. Dry, re-abrade and re-soak the remaining seeds, if desired.