

High Falls Gardens
BOTANICAL STUDIES FOR ORIENTAL MEDICINE

2012 Seed Distribution

OUR SEED PROGRAM HAS CHANGED THIS YEAR. Students and teachers working in gardens participating in the Botanical Studies program may request up to 10 free packets of seeds. For others, our seeds are priced at \$4 per packet (with a 25% discount for current members of High Falls Foundation Inc.), and a \$4 shipping charge for each order. First come, first served -- and some varieties sell out early. Email hfg@capital.net to order. Please identify items by both number and genus name.

Order Deadline April 30, 2012 – NO EXCEPTIONS!

Bare-root program: Mountain Gardens is now supplying much of the seed for our program. This year, we plan to experiment with shipments of live plant material in April. Plants will include *Gynostemma/ jiǎo gū lán*, *Mentha sp./bò hé*, and others too difficult to propagate from seed, and will be drop-shipped bare-root (i.e. without soil) directly from the farms. If you are interested in participating, please email hfg@capital.net to receive the list of plants available by late March. The April 30th deadline for orders and payments applies, but depending on weather the plants may not be shipped until May.

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. Trees require 3-5 years in sheltered pots before planting.

3053

Achyranthes bidentata (Amaranthaceae) -- huái niú xī

HFG Harvested: 11/13/10 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.

3216

Agrimonia pilosa var. japonica (Rosaceae) -- xiān hè cǎo

Hollis/Mountain Gardens 2011

“Pilose” means fuzzy, referring to the stems of agrimony, a bushy herbaceous perennial averaging about 3 feet in height. After small yellow flowers in August-September, the bushy foliage can take on pleasant fall colors. Cone-shaped green seeds about ¼ inch long are held high; sharp prickles on the seed coat will hook on to anything that contacts them. Regional varieties throughout Asia are similar, but the Japanese is described as less hirsute (hairy) than most. Will self-sow readily under the right conditions.

Germination: Method A or B. Transplant radius 18 inches.

3217

Alisma plantago-aquatica (Alismaceae) -- zé xiè

Hollis/Mountain Gardens 2011

or

3197

Alisma orientale (Alismaceae) -- zé xiè

HFG Harvested: 11/18/11. Original source: #1984 RN Nanjing Pharm Univ

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-petaled flowers that open in the afternoon. Rosettes of upright, lanceolate leaves. Plant only in well-contained water gardens. **Germination:** 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.

3218

Allium tuberosum (Liliaceae) -- jiǔ cài zǐ

Hollis/Mountain Gardens 2011

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.

3177

Anemarrhena asphodeloides (Liliaceae) -- zhī mǔ

HFG Harvested: 9/12/11. 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.

3219

Angelica sinensis (Apiaceae) -- dāng guī

Hollis/Mountain Gardens 2011

This angelica has a well-known affinity for altitude, specifically cool, moist mountains of 2500 feet and higher. It's difficult to grow outside of its preferred conditions, although we have grown it in pots and obtained viable seed. A short-lived perennial, lives three years at most. When the seed stalk goes up, the roots are no longer good for medicine. The plant's distinguishing characteristic is a recurvature (backward curve) where the substems branch. **Germination:** Angelicas need light to germinate and must be fresh (less than six months old) for good germination rates. Use method B but do not cover seeds with the potting medium. May be kept in individual pots for a year before setting out.

3178

Angelica taiwaniana (Apiaceae) -- bái zhǐ

HFG Harvested: 9/16/11, Original source: #1000 RN

Distinguished from *A. dahurica* by a slightly different leaf shape. A short-lived perennial, exhibits the classic angelica growth pattern: from seedling to leafy basal clump to single tall seed stalk within three years. May form offshoot pups which can survive, especially if the soil does not stay excessively damp.

Seed stalk can be seven feet tall. Self-sows in our garden. Seems to be less desired by deer than other angelicas. **Germination:** Angelicas need light to germinate and must be fresh (less than six months old) for good germination rates. Use method B but do not cover seeds with the potting medium. May be kept in individual pots for a year before setting out.

3220

Arctium lappa (Asteraceae) -- níu bàng zǐ

Hollis/Mountain Gardens 2011

A biennial that closely resembles the common weed *Arctium minus*, and is known as “great” burdock. Robust and easily 4 feet tall, with purple thistle-like flowers in July-August of the second year. If you are growing to harvest the roots (gobo), they must be dug at the end of the first year, like carrots. But for the medicinal seed, wait until the end of the second year and then have fun trying to get the seeds out of those fruits with the hooked prickles. **Germination:** Method A or direct sow.

2659

Aristolochia debilis (Aristolochiaceae) -- mǎ dōu líng – 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.

3199

Asparagus cochinchinensis (Liliaceae) -- tiān mén dōng

HFG Harvested: 1/11/12, Original source: #734 RN Japan
or

3221

Asparagus cochinchinensis (Liliaceae) -- tiān mén dōng

Hollis/Mountain Gardens 2011

Resembles asparagus fern houseplant; has thorns. Herbaceous and 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 may be an alternative method of propagation.) Remove pulp from round black seeds, use Method B, allow temperature fluctation. Planting radius 18 inches.

3222

Astragalus membranaceus (Fabaceae) -- huáng qí

Hollis/Mountain Gardens 2011

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.

3200

Belamcanda chinensis (Iridaceae) -- shè gān

HFG Harvested: 10/11/11, 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.

3223

Bupleurum scorzonerifolium (Apiaceae) -- chái hú

Hollis/Mountain Gardens 2011

At HFG, Bupleurum is a delicate, airy umbelliferous plant, 18-36 inches in height, with tiny yellow flowers and viable seed. In warmer climates a bushier shape will form. In the wild, the plant often grows on sides of paths, often on hillsides, generally among the grasses—so it likes good drainage without too much damp. Zones 6-9. **Germination:** Method A or B.

3224

Clematis chinensis (Ranunculaceae) -- wēi líng xiān

Hollis/Mountain Gardens 2011

This perennial 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.

3225

Clerodendrum trichotomum (Verbenaceae) -- chòu wú tóng

Hollis/Mountain Gardens 2011

This shrub or small tree, hardy to Zone 7 and 10-30 feet in height, is known as “harlequin glorybower,” sold as an ornamental. The large, velvety green leaves are softly triangular and smell like peanut butter. The white-pink flowers with reddish purple calyxes are also fragrant and give rise to smooth blue berries. It suckers from the roots and can be invasive. **Germination:** Root stem cuttings in summer or root cuttings in winter. Pre-soak dried berries and separate light-colored seed. Method A or B. Shrubs and trees benefit from holding in pots for a year or more before setting out, to develop strong root systems.

3226

Codonopsis pilosula (Campanulaceae) -- dǎng shēn

Hollis/Mountain Gardens 2011

“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 aroma that some find pleasant while others think of burning rubber. Prefers moist, cool conditions and part shade. Zones 4-7. **Germination:** Method B, sow tiny seeds thinly and barely cover with potting medium. Transplant frail seedlings into individual small pots and let them grow for a few months to a year or two before planting outdoors. Planting radius 12-18 inches.

3227

Dioscorea opposita (Dioscoreaceae) -- shān yào

Hollis/Mountain Gardens 2011

or

3179

Dioscorea opposita (Dioscoreaceae) -- shān yào

HFG Harvested: 9/16/11, *Original source:* #1147 Horizon

Synonymous with *D. batatas* and *D. polystachya*. 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. The roots go straight down and swell into vertical tubers 2-3 feet below the surface, requiring serious equipment or a special setup for harvest. These “seeds” are the brown aerial bulblets

that resemble miniature potatoes, are edible and will self-sow freely if not harvested off the vines.

Germination: Method A.

3228

Dipsacus asperoides (Dipsacaceae) -- xù duàn

Hollis/Mountain Gardens 2011

Teasel, a perennial that 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.

3230

Foeniculum vulgare (Apiaceae) -- xiǎo huí xiāng

Hollis/Mountain Gardens 2011

Fennel is a biennial carrot/parsley family herb and vegetable that deserves a place in everyone's garden. An excellent insectary plant (harbors beneficial bugs), its feathery fronds are 2-3 feet in height with yellow flowers borne on umbels, decorative in almost any setting. The ridged seeds are produced in the second year. Different cultivars for bulb, leaf and ornamental purposes (i.e. "bronze" fennel) abound in various catalogs. We could use a cultivar that produces big, fat, highly aromatic seeds – why don't you develop one? **Germination:** Method A or direct sow. Planting radius 24 inches.

3231

Geranium thunbergii (Geraniaceae) -- lǎo guàn cǎo

Hollis/Mountain Gardens 2011

This species of cranesbill is close enough to the standard for lǎo guàn cǎo, *G. wilfordii*, to be worth cultivating. (Also worthy are the eastern North American vicariads, *G. maculatum* and *G. carolinianum*., the second of which has naturalized in China and is used medicinally.) These cranesbills are woodland perennials, about 18 inches tall at most, with fuzzy stems, palmate leaves and 5-petaled pinkish veined flowers. The stems tend to flop and can root at the nodes. **Germination:** Method B, keep young plants in cool, moist shade.

3068

Gentiana macrophylla (Gentianaceae) -- qín jiāo

HFG Harvested: 10/12/10, Original source: #2189 RN China '03

This gentian grows in northern China, Inner and Outer Mongolia, Kazakstan and Russia. Height is 8-12 inches, "gentian blue" flowers in July, needs moisture and tolerates some shade. **Germination:** Very tiny seeds, use Method B, do not cover with potting medium. Make sure the seedlings are well-developed before planting.

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.

3069

Inula helenium (Asteraceae) – tǔ mù xiāng

HFG Harvested: 9/23/10, *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.

3232

Isatis tinctoria (Brassicaceae) -- běi bǎn lán gēn

Hollis/Mountain Gardens 2011

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 20-30 inch tall stems, flowering bright yellow, 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.

3233

Leonurus heterophyllus (Lamiaceae) -- yì mǔ cǎo, chōng wèi zǐ

Hollis/Mountain Gardens 2011

Chinese motherwort is a lovely square-stemmed, short-lived perennial with gray-green leaves. There is no North American analog species; the common “weed” in our gardens is *L. cardiaca*, the European form. *Heterophyllus* forms a large basal clump in its first year, then later can grow to 5 feet tall. Has reddish-purple flowers like its relatives, as well as the characteristic scent. Motherworts are shape-shifters and seem to cross-pollinate freely. Benefits from richer soil. Zones 4-9. **Germination:** Use method B, planting radius 12 inches. You may be able to direct sow this one in moist conditions. Will reseed itself freely.

3202

Leonurus sibiricus (Lamiaceae) -- yì mǔ cǎo

HFG Harvested: 10/11/11, *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 pesky, 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 B. Planting radius 12 inches.

3234

Lithospermum erythrorhizon (Boraginaceae) -- zǐ cǎo

Hollis/Mountain Gardens 2011

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.

3235

Lophatherum gracile (Poaceae) -- dàn zhú yè

Hollis/Mountain Gardens 2011

Known as “bamboo grass,” but it’s classified in the Centothecae tribe and not the Bambuseae tribe of the huge Poaceae family, in case you want to look it up in Flora of China. Erect stems grow in tufts to about four feet in height in warmer zones, with narrowly lanceolate leaves and spikey racemes (flowers) alternating on a single stalk. Found in Taiwan, Indonesia, Philippines, Queensland and other parts of

southeast Asia. Prefers moist, shady slopes, forests and roadsides. Hardy to Zone 6 or 7. **Germination:** Method A or B. Planting radius 12 inches.

3203

Magnolia (=Yulania) kobus (Magnoliaceae) -- xīn yí huā

HFG Harvested: 10/16/11 *Original source:* #955 Forest Farm

Kobushi magnolia is a small (25-30 foot) tree from Japan that produces the desired fat, furry gray buds early in spring before the leaves emerge, followed by beautiful white, fragrant flowers. The tree must be several (6-7) years old before it flowers. Seeds are bright red; the typically leathery, dark green simple leaves turn yellow in fall, and the bark is smooth gray-brown, so this tree is highly ornamental. Grow in full sun to part shade. Hardy to Zone 4, maybe even 3. **Germination:** These seeds have been washed and cleaned of pulp. Method A or B. Hold in pots for 2-3 years until the root system is robust.

3236

Patrinia scabiosaefolia (Valerianaceae) -- bài jiàng cǎo

Hollis/Mountain Gardens 2011

or

3211

Patrinia scabiosaefolia (Valerianaceae) -- bài jiàng cǎo

10/11/11 HFG#2743/HFG#1301/HFG#283/Stonecrop

HFG Harvested: 10/11/11, *Original source:* #1301 Stonecrop

A full-sun, 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.

3212

Patrinia villosa (Valerianaceae) -- bài jiàng cǎo

HFG Harvested: 10/11/11. *Original Source:* #2612 Stonecrop Japan

This is a part-shade herbaceous perennial with white flowers in panicles and pinnately lobed leaves, 4 feet tall at maturity. Would grow in a woodland high canopy or edge. **Germination:** Method A or B, keep at 65-70°F. After one month, if not germinated, transfer to 40°F location. 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.

3237

Platycodon grandiflorus (Campanulaceae) -- jié gěng

Hollis/Mountain Gardens 2011

or

3076

Platycodon grandiflorus (Campanulaceae) – jié gěng

HFG Harvested: 10/11/11, *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.

3238

Rosa chinensis (Rosaceae) -- yuè jì huā

Hollis/Mountain Gardens 2011

“Tea rose” or literally “moon season” flower buds, one of the three rose medicines found in Bensky. An erect shrub 3 to 6 feet tall, this rose bush has more or less prickles, single or double flowers, depending on the variety. The petal color may vary also, in the red-pink-white spectrum. The fruits or hips are smooth and red, about ¾ inch in diameter, and contain light colored seeds. **Germination:** Method A or B, keep warm. Planting radius 36 inches.

3183

Schisandra chinensis (Schisandraceae) -- wǔ wèi zǐ

HFG Harvested: 8/21/11, *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.

3239

Scrophularia nodosa (Scrophulariaceae) – analog for běi xuán shēn

Hollis/Mountain Gardens 2011

Native to Europe, common figwort has naturalized in other northern temperate zones. An erect perennial plant to 5 feet in height with thick, smooth, fleshy stems at the base, it has broad green leaves with toothed margins and small brownish purple flowers held in panicles. Tuberous lateral roots and fleshy nodules respond to rich soil. Full sun to part shade. **Germination:** Method A or B, barely cover seed. Planting radius 18 inches.

3240

Scutellaria baicalensis (Lamiaceae) -- huáng qín

Hollis/Mountain Gardens 2011

Baikal skullcap is an ornamental, bright purplish blue-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.

3241

Sophora flavescens (Fabaceae) -- kǔ shēn

Hollis/Mountain Gardens 2011

or

3081

Sophora flavescens (Fabaceae) -- kǔ shēn

HFG Harvested: 9/23/10, Original source: #36 RN UCB

This astragalus relative is a perennial, herbaceous, sturdy leguminous bush with multiple stems at maturity. The height is 4 to 5 feet. Pale yellow flowers in July-August are followed by long, ornamental dark-brown seed pods. The beans stay viable for several years. Cut back tough dried stalks in autumn. Zones 5-9. **Germination:** Remove seeds from pods, scarify (scratch) seed with sharp knife, soak overnight or 9 hours, use Method A. Planting radius 36 inches.

3214

Trichosanthes kirilowii (Cucurbitaceae) -- guā lóu

HFG Harvested: 11/26/11, 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 the plant sends out half a dozen or more 20-foot, fast-growing vines from its crown. Needs strong support or trellising 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:** Presoak and remove traces of yellow pulp from the light brown seeds. Use Method A with good bottom heat (70-80F) for 15-21 days. Planting radius 18 inches apart at the base of a trellis, or one at the base of each tripod leg.

3242

Vitex negundo var. heterophylla (Verbenaceae) – related to V. rotundifolia, màn jīng zǐ

Hollis/Mountain Gardens 2011

This species is an Asian relative of seashore vitex, *V. rotundifolia*, source of màn jīng zǐ. It's a woody shrub or small tree that becomes herbaceous in Zones 5 and colder. Cut back dead shoots in spring. As a bee and butterfly plant, it's a valuable addition to the garden; the small purple flowers are abuzz with pollinators in August. The deeply incised, bright green leaves resemble those of a very famous medicinal plant, but not quite as much as does the other variety, *V. negundo* var. *cannabifolia*. **Germination:** Method A or B. Planting radius 36 inches.

3243

Ziziphus jujuba var. spinosa (Rhamnaceae) -- suān zǎo rén

Hollis/Mountain Gardens 2011

Sour jujube seed comes from a spiny, deciduous shrub of the buckthorn family. This plant, like its close relative *Z. jujuba*, source of Chinese red date (dà zǎo), is being produced in North America with several cultivars available in trade. The germplasm from Mountain Gardens and High Falls Gardens is close to the wild, or the “unimproved” form. The tree grows three to nine feet in height, ranges throughout Asia, and tolerates dry, poor conditions such as roadsides and hillsides. It suckers near the base and can be propagated this way. Plant in full sun. The tree takes 11 years to form fruit. **Germination:** Method A or B, be prepared for a long cycle. The young seedlings should be grown in pots until their root system is fully formed.

See the next page for Germination Methods.

GERMINATION METHODS

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.