

Invasive Exotics of the Greater Kansas City Region

Compiled by Alan Branhagen, Director of Horticulture Powell Gardens

Plants are coded into the following categories:

#1 Plants that are currently severe pests and whose seeds are dispersed far and wide by birds (droppings) or animals (many get transported in a deer's fur). These plants should not be planted and all existing plants should be removed.

#2 Plants that are severe pests near where planted but whose seeds do not disperse great distances. These plants should not be planted near natural lands.

#3 Plants that are severe pests in certain parts of the Midwest and should be monitored for invasiveness. Use discouraged near nature preserves.

Woody Plants:

#2 **Amur Maple** *Acer ginnala*: (small tree) Trees were removed from Powell Gardens' collections because thousands of seedlings infested nearby perennial borders and woodlands. Alternate Plants: Musclewood *Carpinus caroliniana*, Flowering Dogwood *Cornus florida*, or non-invasive Asian maples including Japanese Maple *Acer palmatum*, Fullmoon Maple *A. japonicum*, Golden Fullmoon Maple *A. shirasowanum*, Purpleblow Maple *A. truncatum*, and Korean Maple *A. pseudosieboldianum*.

#3 Norway Maple *Acer platanoides*: (shade tree) a weed east of here, has anyone seen seedlings here? We do not have the plant in Powell Gardens' collections. Its use near mesic forests is strongly cautioned. Its value to wildlife is useless! Alternate: Sugar Maple *Acer saccharum*, or Black Maple *Acer nigrum*.

#2 **Tree-of-Heaven** *Ailanthus altissima* (shade tree) a prolifically self-sowing tree that survives in disturbed urban sites. "The tree that grows in Brooklyn" Has become problematic in Loess Hill prairies in NW MO. Is a severe woodland pest in some areas like West Virginia and has recently become a pest in woodlands near Powell Gardens (Powell Gardens does not contain this plant.). Alternate Plant: Chinese Toon *Toona (Cedrela) sinensis* or Pecan *Carya illinoense*

#3 **European Alder** *Alnus glutinosa*: (small tree) a weed northeast of here. Our accessions produce seed but only an occasional seedling survives along our lake. I still would strongly caution its use near natural wetlands. Alternate: Missouri native Green Alder *Alnus serrulata*

#1/#3? **Porcelainberry** *Ampelopsis brevipedunculata* and cultivars: (woody vine) a vicious weed east and south of here and has the potential to be so here as well. We will not display it at Powell Gardens. Use strongly cautioned, birds can transport the seeds long distances. Alternate: Raccoon-grape (which is the native Porcelain Vine!) *Ampelopsis cordata*. Raccoon-grape grows in both my garden and Jackie Goetz's in OP. It has the same lovely fruit, nice fall color and attracts many unusual species of beautiful moths as a host plant (like the Eight-spotted Forester and Pandora's Sphinx)

#3 **Japanese Barberry** *Berberis thunbergii* and cultivars: (shrub) This shrub self sows in woodlands east of here. Birds can disperse the seeds widely. Has not appeared to be a problem but has been observed naturalized near Lakeside Nature Center in Swope Park. Alternates: for purple foliage: its cultivar 'Concorde' which doesn't bloom; 'Wine & Roses' weigela, 'Diabolo' ninebark; for colorful fall fruit: winterberry holly *Ilex verticillata*.

#1 **Paper Mulberry** *Broussonetia papyrifera*: (small tree) This small tree is no longer in the nursery trade but seedlings have been removed at Powell Gardens. It is commonly found around old farmsteads in our region. Male plants do not set fruit and spread.

#1 Oriental Bittersweet *Celastrus orbiculatus*: (woody vine) known as the kudzu of the north. We will not display this vine at Powell Gardens. Birds transport the seeds far and wide. Alternate: American bittersweet *Celastrus scandens*

#2 Sweet Autumn Clematis *Clematis terniflora/ C. paniculata*: (woody vine) this popular shrub self sows and is a problem at Blind Boone Park in Warrensburg. Ever popular, this shrub should not be planted near wild lands! Alternate: Virgin's Bower *Clematis virginiana* is native and as rambunctious but does not have fragrant flowers.

#1 Autumn-olive *Elaeagnus umbellatus*: (large shrub) Once planted for wildlife habitat this shrub has naturalized extensively at Powell Gardens and vicinity. It is seldom seen in nursery catalogs anymore and we are in the process of removing the naturalized shrubs on the premises. Alternate: Possumhaw/Deciduous Holly *Ilex decidua* for red berries and Clove Currant *Ribes odoratum* for the fragrant flowers

#2 Burning Bush *Euonymus alata*: (large shrub) This popular shrub should be removed from our landscape and we have removed our plantings in the Rock and Waterfall Garden, and the fruiting plants in the Perennial Garden. Thousands of seedlings can be found beneath the plants and scattered elsewhere. This is a shrub the public is not willing to give up and we will have our work cut out for us to discontinue its use! Alternate: Fragrant sumac *Rhus aromatica* is the only thing which rivals its fall color. Our native Wahoo *Euonymus atropurpureus* and Missouri native Strawberry-bush *Euonymus americanus* are also similar with more more showy fruit and often just as good fall color.

#1 Winterberry Euonymus *Euonymus fortunei*: (evergreen shrub or vine) This popular shrub is spread far and wide by birds. Definitely a problem in our region like in Swope Park and Cave Spring Park near Raytown. The cultivar 'Purpurea' the wintercreeper euonymus and several of the variegated forms are sterile if trimmed and kept juvenile. We will not display the fruiting forms of this shrub at Powell Gardens. Alternate: use evergreen Hybrid hollies like 'Blue Princess', 'Blue Stallion' and 'China Girl' and 'China Boy'

#2/#3? Goldenrain Tree *Koelreuteria paniculata* This popular small to medium sized tree produces copious amounts of fertile fruit. It can self-sow with great abandon in garden beds and waste places. It appears to be a potential pest in natural areas with thin soils like outcrops and glades. It has severely infested the Piasa Bluffs on the Mississippi River on the Illinois side above Saint Louis. Do not plant near glade or rocky natural open landscapes. Alternate plants are limited but include related Western Soapberry *Sapindus drummondii*.

#1 Japanese Honeysuckle *Lonicera japonica* and cultivars 'Hall's', 'Purpurea', 'Reticulata'...: (evergreen woody vine) This popular vine is a noxious weed at Powell Gardens and consumes several acres of prairie and brushland. Birds spread it far and wide. It is banned in Illinois. Alternates: Trumpet Honeysuckle *Lonicera sempervirens* is our American counterpart but does not have fragrant flowers. Missouri native Yellow Honeysuckle *L. flava* is also a good substitute but is only lightly fragrant.

BUSH HONEYSUCKLES

#1 Amur Honeysuckle *Lonicera maackii*: (large shrub to small tree) No longer in the nursery trade or wildlife habitat "packets". Definitely a pest which should never again be planted here. Seedling and sapling shrubs are occasionally found at Powell Gardens – and promptly removed. Alternates for bush honeysuckles include both our Possumhaw /Deciduous holly *Ilex decidua* and Winterberry Holly *Ilex verticillata* for their colorful fall fruit. Spring fragrant flowers can be achieved by Clove Currant *Ribes odoratum* and Hoptree *Ptelea trifolia*. Native honeysuckles include the climbing Yellow Honeysuckle *Lonicera flava*.

#1 White Mulberry *Morus alba*: (small to medium sized tree) This tree is only in the nursery trade as a weeping male tree. Any fruited (female) variety of this weed tree should not be planted

or netted to keep birds from them. The fruit is black, pink or white and dispersed widely by birds. I think we now have removed all naturalized trees at Powell Gardens. Alternate: native Red Mulberry *Morus rubra*, new weeping redbud *Cercis canadensis* 'Covey' is a good substitute for weeping mulberry.

#3 Privets *Ligustrum* spp.

In the South the Chinese privet *Ligustrum sinense* is a horrific pest to woodlands and this plant is supposedly hardy only to zone 7 but there are several big shrubs of its variegated cultivar growing in my neighborhood in Odessa. Matt Bunch has observed *Ligustrum* naturalized in Swope Park. I have only seen *Ligustrum amurense* (which is commonly sold mailorder as "hedge" privet) escaped around Lake Giacomo. Tim Smith also lists *L. ovalifolium* and *L. obtusifolium* as possible weeds. Alternate hedge plants would be Boxwoods *Buxus* hybrids and yews *Taxus cuspidata* and *T. x media* cultivars.

#2? Boston Ivy *Parthenocissus tricuspidata* This woody vine is the Asian counterpart to our native Virginia creeper. It has self-sowed with great abandon at the Kauffman Memorial Garden and Anita B. Gorman Conservation Discovery Center landscape. It has also been observed seeding into private garden landscapes (Matt Bunch). Birds eat the fruit and can potentially spread them far and wide. Alternate plant is our native Virginia creepers *P. quinquefolia* (with similar tendrils that attach to its support or *P. vitacea* which has twining tendrils like a grape to attach to its support (and thus sometimes called grape creeper).

#1 Bradford Pear & Callery Pear *Pyrus calleryana* including all cultivars 'Bradford', 'Aristocrat', 'Autumn Blaze', 'Chanticleer' and others. Powell Gardens has ZERO on the grounds. Huge seedling masses of this tree occur around the fringes of the metro and seedlings are very difficult to remove from gardens. Substitute Pyramidal Hornbeam *Carpinus betulus* 'Fastigiata' & Turkish Hazel *Corylus colurna* for similar shaped trees, better white-flowering trees include native serviceberry *Amelanchier* sp., white-flowering redbud *Cercis canadensis* 'Alba' and select cultivars of crabapple *Malus* sp.

#3 European Buckthorn *Rhamnus cathartica*: (small tree) This plant is no longer in the nursery trade but persists as a weed. Substitute: Carolina Buckthorn *Rhamnus caroliniana* or Lanceleaf Buckthorn *Rhamnus lanceolata*. All samples of buckthorn escaped in the region that we have seen are Asian Dahurian Buckthorn *Rhamnus davurica* used interchangeably with European Buckthorn in the past.

#3 Glossy Buckthorn *Rhamnus frangula*: (large shrub, small tree) This plant is mainly in the nursery trade as the cultivar 'Asplenifolia' (fern leaf buckthorn). We have this plant at Powell and it does not set seed for us. A terrible weed north and east of here, especially in wetlands. Has anyone have a problem with it here? Substitute: Carolina Buckthorn/Indiancherry *Rhamnus caroliniana*

#1 Multiflora Rose *Rosa multiflora*: (large shrub) not in the trade or wildlife habitat packet anymore. A nasty weed locally. It is riddled with rose rosette disease at Powell Gardens and seldom produces fruit anymore. Substitute: Prairie/Climbing Rose *Rosa setigera* for similar habit and fruiting.

#2 Siberian "Chinese" Elm *Ulmus pumila*: (shade tree) Not in the trade anymore and very nasty weed tree here. Naturally hybridizes with native Slippery/Red Elm *Ulmus rubra* to produce *Ulmus x notha* which can be found in the wilds at Powell Gardens as well (genetic pollution!). Substitute Hackberry *Celtis occidentalis* or Sugarberry *Celtis laevigata*

#2 True Chinese or Lacebark Elm *Ulmus parvifolia*: (shade tree) This tree is hot in horticulture circles right now and has been a weed in certain local gardens with thousands of seedlings produced. This elm produces seeds in the fall. We have not seen any seedlings at Powell Gardens but its use should be tempered near wild lands. Substitute Hackberry or Sugarberry.

#3 Viburnums *Viburnum* spp.

We have many exotic viburnums at Powell Gardens and so far none seem to be spreading by seed (other than the native species). Tim Smith lists *Viburnum opulus* as a potential weed and I know Linden Viburnum *V. dilatatum* and Wayfaring tree *V. lantana* are problems east of here. We are watching them at Powell Gardens and have not observed any of them in the woods or hedgerows around here.

#3's? There are other species that produce an occasional seedling or sapling but appear not to be able to compete outside very disturbed landscapes: Hardy mimosa *Albizzia julibrissin* var. *rosea*; and Butterflybush *Buddleia davidii*, Purple Beautyberry *Callicarpa dichotoma*, Rose-of-Sharon *Hibiscus syriacus*, Pyracantha *Pyracantha* species and hybrids.

Tim Smith also suggested Mahaleb plum *Prunus mahaleb* (used as fruit tree understock) and Sawtooth Oak *Quercus acutissima* but we have seen neither in the wild near Powell Gardens. (The ice storm really destroyed our sawtooth oaks and we removed several of them – why plant this dull plant when chinkapin oak is far more attractive!)

Semi-woody plants

#1 Sericea *Lespedeza sericea*: A widespread weed used for erosion control and forage. Covers in excess of 40 acres at Powell Gardens and continues to spread. Probably the second most damaging invasive exotic next to tall fescue. There are many, many native species of *Lespedeza* which can accomplish the same objective including *L. capitata*; *L. virginica*. *L. violacea*

#1/#2? Japanese Bush-clover *Lespedeza thunbergii*: A subshrub becoming popular as a late season flowering ornamental and also used like multiflora rose once was for wildlife habitat. We have just found it in one of our degraded remnant prairies. I've seen large patches of it at Schell-Osage Wildlife Area and our propagator Marie Frye has observed it in glades in south Missouri.

Herbaceous Plants: Many, many species of exotic herbaceous plants have escaped in our region and have become the dominant flora in most landscapes. Most do not seem to usurp native plants but a few are displacing native plants and habitats. Their seed is often spread by lodging in the pelts of deer and other animals.

#1 **Nodding Thistle** *Carduus nutans* A obnoxious biennial weed whose seeds are spread far and wide by the wind there are numerous native thistles that are not invasive! Native *Cirsium altissimum*, *C. discolor*, *C. undulatum* and others are actually wonderful garden plants! You can easily identify native thistles by the white undersides of their leaves.

#1 **Bull Thistle** *Cirsium vulgare* ditto above

#2 **Crown Vetch** *Coronilla varia*: Another plant used for erosion control that has gone awry. Has the ability to smother nearly everything in its path. The only good thing is that it has resurrected a habitat restricted butterfly, the Wild Indigo Duskywing which has adopted this plant as its host as well as native wild indigos *Baptisia* spp. Would Prairie/climbing rose *Rosa setigera* be a good substitute? It is making nice sprawling, groundcover-like masses in our parking lot.

#1 **Greek Foxglove** *Digitalis ferruginea* (this is not the English Foxglove!)

A lovely perennial with rusty colored spikes of flowers. Has escaped extensively into prairies and rangeland in Kansas and The Kansas Dept. of Agriculture warned of its use. All plants at Powell Gardens were promptly destroyed and it should not be planted.

#1 **Teasels** *Dipsacum laciniata* and other similar species

A very invasive biennial that self sows prolifically, even into meadow and prairie habitat. This plant is grown for its ornamental seed head which generates copious amounts of seeds. Do not plant this plant and bake seed heads to kill any possible seeds.

#1 Tall Fescue *Festuca arundinacea*: The dominant forage and lawn grass in our region that has taken over meadows and prairies. Foliage can be virus infested which negatively affects animals that eat it. Greater than 100 acres of Powell Gardens is infested with this plant. Let's call a spade a spade, even though it is politically incorrect – the most environmentally damaging plant in the region! Fine-leaf, turf type selections do not appear to be invasive.

#2 Yellow Flag Iris *Iris pseudacorus*: This perennial is on the severe invasive lists for both New England and the Pacific Northwest. It has naturalized all around the main lake at Powell Gardens, demonstrating its potential invasive nature in wetlands in our region.

#2 Perennial Sweet Pea *Lathyrus perennis*: A widespread perennial weed that has escaped to roadsides and near old dwellings. A nearly indestructible thug that should never be planted near native grassland habitats. Alternate Plants include: Prairie Clovers *Dalea* spp, Scurf-peas *Pisoralea* (Pediomelium) and annual pea vines like Purple Hyacinth Bean *Dolichos lablab* and Scarlet Runner Bean *P. coccinea*.

#2 Bird'sfoot Trefoil *Lotus corniculatus* (aka "Pea from Hell") Another plant used for erosion control that has invaded prairie sites where it is very difficult to control. The large sprawling plants smother diminutive species. Alternate plant: Native partridge pea *Cassia/Chamaecrista fasciculata* is a self-sowing annual with beautiful yellow bloom and high wildlife value as seed and forage (host plant to 5 butterflies).

#1 Purple Loosestrife *Lythrum salicaria*

A major threat to wetland diversity that is banned in many states. Biological control beetles appear to be working to control it in controlled releases in Wisconsin and Illinois. There are allegedly sterile clones but Powell Gardens will not display this plant or any of its clones. Alternate plants include prairie blazingstar *Liatris pycnostachya*, native winged loosestrife *Lythrum alatum*, Obedient plant *Physostegia virginiana*...

#2 Eulalia Grass, Maiden Grass or just "Miscanthus" *Miscanthus sinensis*

Becoming a very popular perennial ornamental grass. We have not had a problem with it at Powell Gardens but it has occasionally naturalized: Overland Park Arboretum and Warrensburg. A very noxious pest in Mid Atlantic and Southern States. Some cultivars are sterile or nearly so. We need to identify those clones which don't self sow.

#3 "Pampas" grass *Miscanthus sacchariflorus*

This grass spreads wildly by rhizomes and overtakes all in its path. Should be very carefully sited and used. Becoming a bad pest in Iowa.

#1 Wild Parsnip *Pastinaca sativa*:

This biennial seems to be very invasive as well as phyto-photo (sp?) toxic – it causes dermatitis when handled in the sun. Far more invasive and oppressive than Queen Anne's-lace which doesn't seem to be harmful and can be controlled by fire. Good substitutes include the native Prairie Parsnip *Polytaenia nuttallii* which is an excellent underutilized native plant.

#2 ?#1? Black Fountain Grass *Pennisetum alopecuroides* 'Moudry' and 'National' The black-flowering cultivars of fountain grass have proved to be wildly invasive at Powell Gardens and have infested tall fescue (maybe this is a good thing!) and buffalograss turf besides self sowing with abandon in borders. We destroyed 'National' from our nursery and removed 'Moudry' from the Island Garden and Kauffman Garden where it has proved just as invasive. Other popular cultivars do not self sow for us: 'Hameln', 'Little Bunny' or hybrid cultivars 'Karley Rose' and 'Tall Tales'.

#1 Reed Canary Grass *Phalaris arundinacea* non-native strain: A rhizomatous grass planted for forage in wet areas that has choked out nearly all native wetland plants in its path. The upper

reaches of Powell Gardens' main lake is infested with this plant and we spray it to keep it out of our meadow and wetland displays. Alternate Plant: Prairie Cordgrass *Spartina pectinata*

#2 Hardy Pampas Grass or Ravenna Grass *Saccharum ravennae* formerly *Erianthus ravennae*
This huge, eight-foot perennial grass has become immensely popular. It self sows on occasion and can be seen on a few roadsides or disturbed areas. ??? A plant to watch....

Many herbaceous exotic plants occasionally self sow but do not appear to spread beyond areas of continual disturbance...

Verbena bonariensis – must have disturbed soil to self sow, it is quickly displaced by perennial plants in natural settings.

Cleome Cleome spp. – this annual is wildly invasive in garden or disturbed soil areas but won't even grow in our meadows.

Rhizomatous spreaders that could be problems if they escape into natural areas

Gooseneck Loosestrife *Lysimachia clethroides* and "Chameleon plant" *Houttuynia cordata* are very invasive spreaders in the garden – they do not set seed but can "run" quite a distance. Their use is strongly cautioned near natural wetlands.