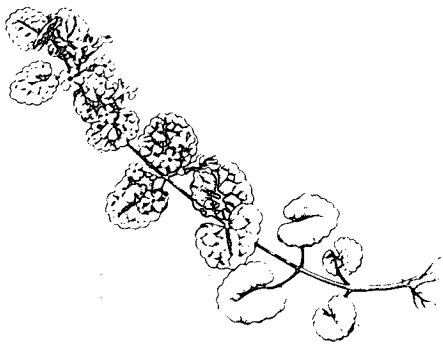


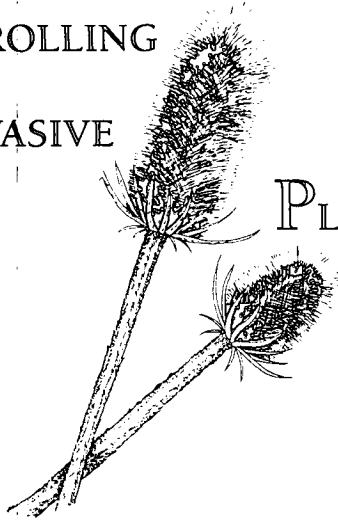
# A "Baker's Dozen"



Exotic species have certain characteristics in common. They tend to grow aggressively, crowding out native species, and they tend to be hardy and able to colonize disturbed sites easily. In too many instances, these plants have been deliberately introduced for some supposed beneficial use to mankind (forage, soil erosion control, wildlife cover, etc.) Unfortunately, some of these species are still being recommended by government agencies for planting by landowners, even after their invasive nature is well-known.

The Illinois Audubon Society and the Illinois Native Plant Society have jointly produced this educational brochure in an effort to enlighten landowners in Illinois as to the identification of some of the most invasive non-native plants, in an attempt to curb their further spread across the state.

## CONTROLLING INVASIVE PLANTS



Both I.A.S. and I.N.P.S. support the control of exotic species, and also advocate mechanical or non-chemical control where possible. However, it is recognized that large, well-established stands of exotic plants must sometimes be treated with herbicides. In such situations, chemicals must be judiciously applied, according to recommended guidelines, by licensed applicators.

The Illinois Nature Preserves Commission is continuing to develop a series of Vegetation Management Guidelines to address the control of exotic and invasive species in natural areas. It is recommended that landowners also follow these guidelines, which include very specific information regarding practices which are most effective for each species.

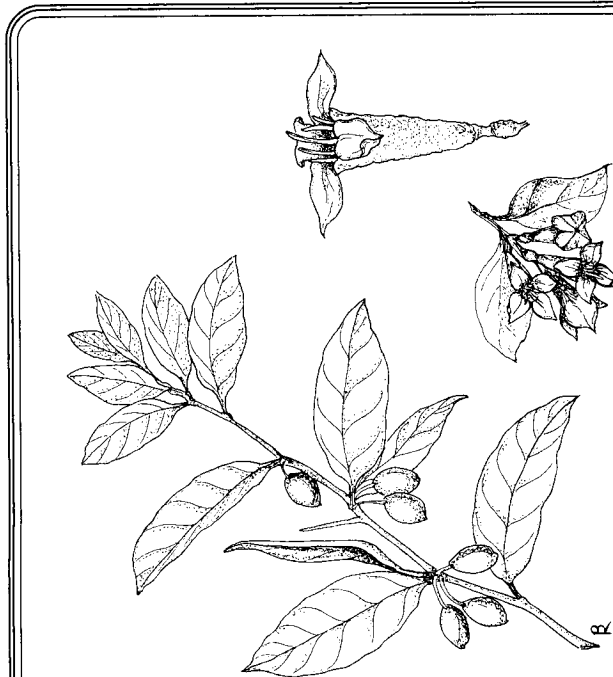


KUDZU<sup>R</sup>

(*Pueraria lobata*)

Kudzu was first planted in southern states to stop soil erosion. In a few years, it was known as the "vine which ate the South!" The leguminous vine grows rapidly, rooting at each leaf nodule and quickly blanketing everything in its path—utility poles, trees, roadside ditches, pastures, fields, and buildings. It is best identified when in bloom, as its pea-like purple flowers are colorful and also smell like grapes. Kudzu may be confused with other vines, such as wild grape or some of the trailing legumes, such as round-leaved tick trefoil. However, it can be distinguished from these by the densely hairy, golden young stems.

Unfortunately, Kudzu can survive cold weather. In Illinois, it has been found growing and reproducing as far north as Quad Cities, Peoria and Chicago. State agencies are now actively treating all colonies of kudzu reported in Illinois in an effort to keep it from spreading. Continued treatment is absolutely necessary to kill this persistent vine. If you see it, report it to the biologists at your regional I.D.N.R. office.



## JAPANESE HONEYSUCKLE

(*Lonicera japonica*)

Japanese honeysuckle is a semi-evergreen vine and holds its leaves late into winter. Its ovate leaves are 1.5 to 3 inches long, and stems are rusty to light brown. In May and June, the plant is covered with white to yellow tubular, fragrant flowers that occur in pairs in the leaf axils, and which later form attractive fruits that are eaten and spread by birds.

This species, as well as some other non-native honeysuckles, has escaped cultivation and is continuing to spread in our woodlands throughout the state. Japanese honeysuckle is classified as an exotic weed, and its commercial sale in the state is prohibited. Gardeners should select only species of honeysuckles which are non-invasive when planting these vines or shrubs which are attractive to the ruby-throated hummingbird and adult sphinx moths, as well as caterpillars of the clearwing sphinx moth. Contact the Illinois Native Plant Society or the Illinois Audubon Society for more information on species which are non-invasive.

Japanese honeysuckle can be controlled in several ways. On small patches, hand pulling or cutting of the vines may suffice. But

## AUTUMN OLIVE

(*Elaeagnus umbellata* Thunb.)

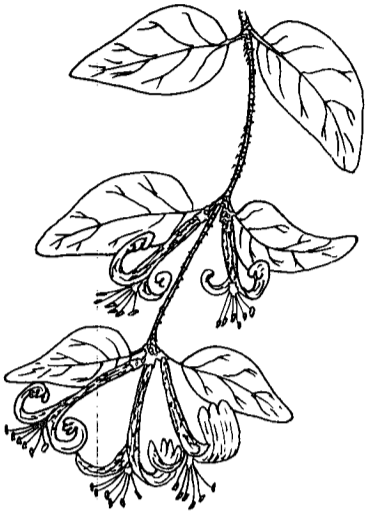
Autumn olive is a medium to large shrub, often growing to 20 feet in height. It is characterized by oval-shaped, alternate leaves which are dark green to grayish green on the upper surface, and light and scaly on the underside. These silvery scaled leaves are easy to detect from a distance. Small yellow, cloyingly fragrant flowers bloom in early spring, followed by small, fleshy fruits borne along the stem which range from pink to red in color.

This shrub was once touted by the U.S.D.A. as good for providing wildlife food and cover. Birds do feed extensively on its berries. But, like most alien species, the plant is very invasive and continues to spread unchecked throughout the state. In so doing, it has disrupted the natural succession of native plants in those areas. Despite its reputation, this shrub does not provide the best nesting cover for wildlife.

The entire shrub must be removed to keep it from resprouting. Aside from digging out the shrubs, the most effective method of control is cutting and treating the stumps immediately with herbicide (which should be done with great care.)

# ' of Exotic Species

on larger areas, prescribed burning or judicious use of herbicide may be more productive in controlling this invasive plant. With great effort, some kind of control of this exotic vine may be achieved. Eradicating it will probably be impossible.



northern 2/3 of the state, garlic mustard has already taken over parks, nature preserves, and other natural habitats. Without a massive effort to stop its spread, many of our favorite spring wildflowers will disappear. Current control measures include hand pulling, controlled burning, and selective use of an herbicide which can be applied in early spring before wildflowers are blooming. Work is continuing on a biological agent to thwart this smelly alien, but it is several years away. Be on the lookout for garlic mustard in your own yard and in favorite parks and preserves. If it is caught early, small patches are more easily controlled without having to resort to herbicides. However, seeds will form on hand-pulled plants in bloom, so the plants should be removed from the site. If not, the seeds will sprout and make the problem worse!

## GARLIC MUSTARD

(*Alliaria officinalis*)

This noxious plant spreads through woodlands and primarily shaded urban areas by seeds. While generally a biennial, garlic mustard may also bloom as an annual. The broad heart-shaped, toothed leaves tend to stay green through fall and winter, making the plant easy to identify in these seasons. It varies from a few inches to nearly 4 feet in height. Small white 4-petaled flowers bloom in spring. When a leaf is crushed or the stem of the plant broken, a strong onion-like smell is evident. In the



## PURPLE LOOSESTRIFE

(*Lythrum salicaria*)

Purple loosestrife is a perennial which is closely related to other Lythrum often grown in gardens. It has overtaken many wetlands, particularly in northern Illinois. It grows in dense stands and the bright magenta color of its flowered is eye-catching, making it easy to spot. In the last few years, scientists have begun a biological control program utilizing beetles that is showing some promise for the eventual control of this aggressive exotic. Meanwhile, gardeners should be absolutely certain that they are not introducing this species in new areas. It is best to choose some other colorful and native plants, rather than Lythrum, to avoid this problem.



Each year seems to bring new species to our borders—and not all of them are welcome! During the last several decades, we have seen new plants appear which have quickly become pests, aggressively crowding out many of our native wildflowers and laying waste to natural landscapes, including woodlands, savannas, prairies, and wetlands. Now, biologists are fighting back and they need the help of landowners to keep these exotic species under control. Every citizen can assist in this battle by learning to recognize and to report infestations of non-native plants to the proper agencies. Gardeners can also help by learning which plants are potentially invasive, and not planting them.



## EXOTIC SPECIES: THE INVASION OF ALIEN PLANTS IN ILLINOIS

### HOW TO HELP IN THE FIGHT AGAINST INVASIVE SPECIES:

1. Use native species in your garden and landscaping. Remember, native species are well-adapted for life in Illinois and will not require the additional care of many non-native plants.
2. Keep an eye out for invasive species on your property and in your neighborhood. Act to eliminate them before they become a problem.
3. Help spread the word by telling friends and neighbors about the problems caused by non-native plants, especially the threat they pose to our favorite native wildflowers.
4. Volunteer to help when local parks and preserves need workers to help eliminate invasive plants.

This brochure was funded by I.N.P.S. and I.A.S. with assistance of a grant from the Wildlife Preservation Fund (I.D.N.R.) and a gift from Springfield Audubon Society. Artwork by Gary L. Wilford and Patti Reilly. Published in June, 2003.



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Westville, IL 61883  
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## EURASIAN WATER-MILFOIL

(*Myriophyllum spicatum*)

Eurasian water-milfoil is a rooted, submerged plant with long branching stems and whorled, feather-like leaves. Spikes of small, reddish flowers are held above the water.

This plant can be confused with a number of other submerged plants, including other species of water-milfoil and native coontail. It is already widespread in the U.S. and Canada, and is readily transported from one body of water to another by boats, trailers, and personal water craft.

Eurasian water-milfoil is cold hardy, and can tolerate a wide variety of water quality conditions, allowing it to spread more easily into new areas. It grows quickly to form dense infestations which not only shade out native aquatic plants, but also affect birds and fish by changing the aquatic habitat. Large decaying mats of the plant can reduce oxygen levels, affecting other aquatic life.

Various control measures have been tried, including the manipulation of water levels, and the introduction of both insects and fish as biological control agents. Individuals can help prevent the spread of this plant by washing boats and other watercraft before leaving the boat ramp.

## FESCUE

(*Festuca pratensis*)

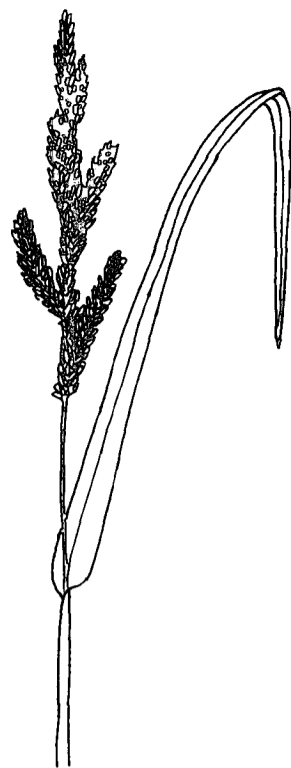
This tall, coarse grass has short, creeping rootstocks and grows in heavy clumps. The stems may be 2 to 5 feet in height, and often form very dense, solid stands. Flowers occur in flat, oval spikelets with 6 to 12 individual flowers in each. Leaves are 4 to 5 inches long, and rough on the upper surface and smooth beneath.

This hardy, perennial grass was introduced from Europe and is commonly sown for pasture and hay because it can withstand grazing and trampling by cattle. It is also used extensively on grass waterways and stream banks for erosion control.

While it is slow to become established, once the heavy clumps of grass form, fescue can be extremely difficult to eradicate. It is primarily a problem when it invades natural communities, such as glades or prairies. In such habitats, it quickly changes the species composition and displaces many native plants.

Prescribed burning can be used to help control fescue, especially in areas of light infestation.

In prairie areas, selective herbicides may need to be used in conjunction with burning to eliminate this grass.

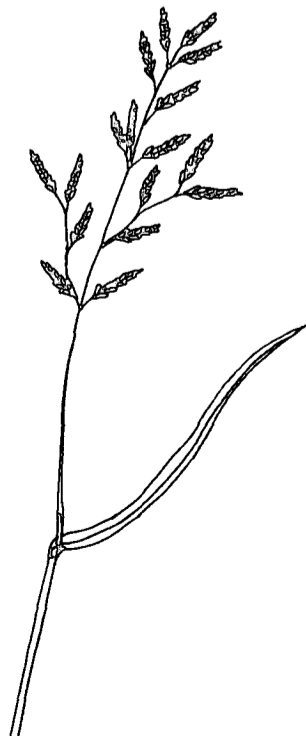


## REED CANARY GRASS

(*Phalaris arundinacea*)

This grass, which grows to 6 feet in height, is a particular problem in marshes, sedge meadows, and other wetlands throughout the state. Growth is highly variable, and the Eurasian species is difficult, if not impossible, to distinguish from closely-related native species. The species spreads by creeping rhizomes. Dense clusters of flowers are produced from May through August. The flowering heads are green, then purple, and finally tan in color. The seeds are shiny brown, and can germinate without a period of dormancy, allowing more rapid spread of the plant.

In some selected northeastern Illinois wetlands, eradication programs have allowed wild orchids and other native species to reappear once the grass is removed. Fire can be used to suppress the spread of reed canary grass, especially in areas where there is still an abundance of native species. However, it is not very effective in dense monocultures. Herbicides which are licensed for use in aquatic areas may also be used to control reed canary grass. For more information, contact your regional I.D.N.R. office.

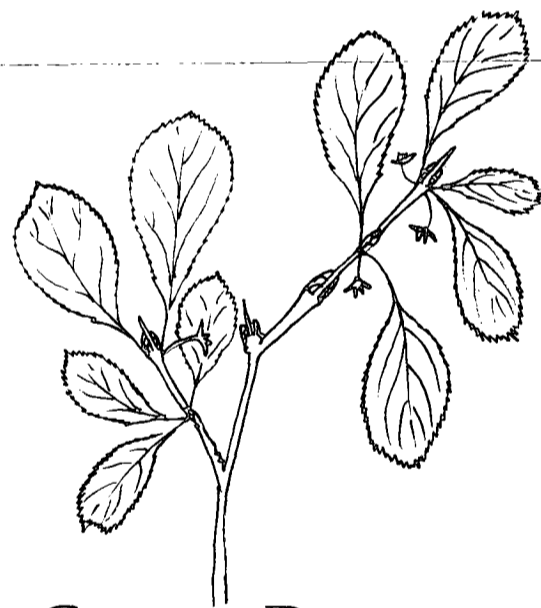


## MORE INVASIVE PLANTS:

- Teasel (*Dipsacus sylvestris*)
- Dame's rocket (*Hesperis matronalis*)
- White Sweet Clover (*Melilotus alba*)
- Yellow Sweet Clover (*Melilotus officinalis*)
- Star-of-Bethlehem (*Ornithogalum umbellatum*)
- Purple wintercreeper (*Euonymus fortunei*)
- Creeping Charlie (*Glechoma hederacea*)
- Japanese hops (*Humulus japonicus*)
- Periwinkle (*Vinca minor*)
- Bicolor lespedeza (*Lespedeza bicolor*)
- Winged burning bush (*Euonymus alatus*)
- Common privet (*Ligustrum vulgare*)
- Eur. Highbush cranberry (*Viburnum opulus*)
- Japanese knotweed (*Polygonum cuspidatum*)
- Smooth brome (*Bromus inermis*)

## WHERE TO LEARN MORE ABOUT EXOTIC SPECIES:

- Illinois Exotic Weed Control Act
- INPC Vegetative Management Guidelines
- Visit these websites:
- The Nature Conservancy – <http://nature.org/initiatives/invasive-species/>
- INPS - Vegetative Management Guidelines – <http://www.inhs.uiuc.edu/chf/outreach/VMG/VMG.html>
- Illinois Native Plant Society – [www.ill-inps.org](http://www.ill-inps.org)



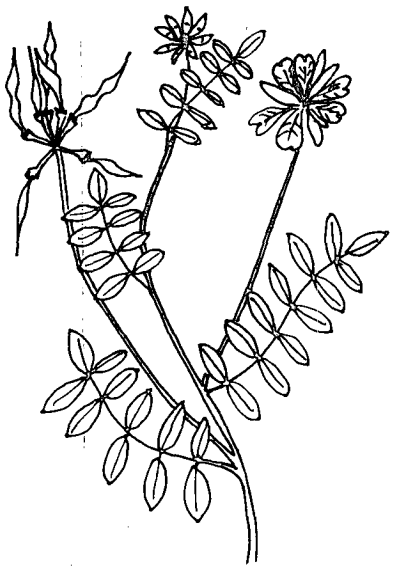
## COMMON BUCKTHORN

(*Rhamnus cathartica*)

In the northern 1/3 of the state, this European species forms thickets which are almost impenetrable. It can be recognized by its fine-toothed, opposite leaves and dark, berry-like fruits. The twigs end in sharp spines. The inner bark of twigs is yellow. Common buckthorn is spread by birds, which feed on the fruits. Unfortunately, it was planted in the 1950's along many roadsides in the state.

Restoration efforts are underway in many areas where this shrub has taken over, so that our native plants have a chance to recover.

Control measures include digging out the entire shrub, or cutting and treating with herbicide. The cleared areas then usually must be immediately reseeded with native plants. Efforts must be made to keep this species from spreading further southward in Illinois.



## CROWN VETCH

(*Coronilla varia*)

Crown vetch is a low-growing, bushy plant which was originally introduced by the U.S. Department of Agriculture for erosion control on slopes. Over the years, it has been widely planted. A native of Europe, crown vetch readily escapes from such plantings and spreads to new areas.

This member of the legume (pea and bean) family has very attractive blossoms which range in color from white through dark pink. Like many other legumes, it has three-parted leaflets.

The plant likes full sun, and it is often seen along highway rights-of-way, where it was once planted by I.D.O.T. to form an attractive roadside cover. In spite of its reputation as an erosion control agent, crown vetch does not, in fact, do a good job of checking soil erosion, and has been taken off the seeding list for Illinois roadsides.

While still available at some nurseries, this plant should not be introduced to new areas! Crown vetch is extremely aggressive and will even overtake established tallgrass prairie communities.

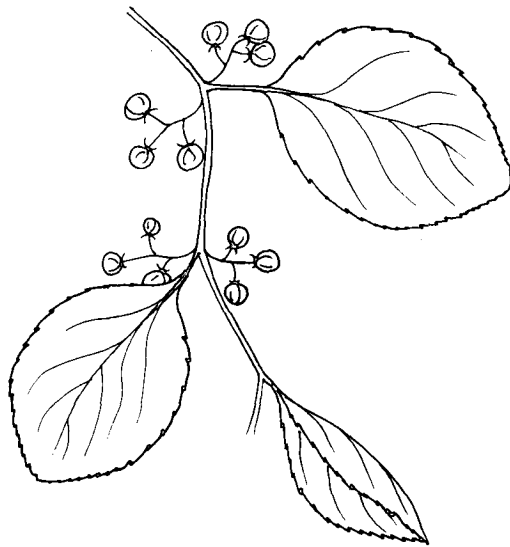
Getting rid of large areas of crown vetch is not easy, and requires repeated efforts to eliminate not only the plants, but the seed bank in the soil where they have been growing.



## MULTIFLORA ROSE

(*Rosa multiflora*)

Multiflora rose is a medium-height thorny shrub which readily spreads in all



## ROUND-LEAVED BITTERSWEET

(*Celastrus orbiculatus*)

Round-leaved, Oriental, or Chinese bittersweet, is a vine which is often sold through nurseries and garden centers because of its orange fruits, which are attractive to birds. It is deciduous and hardy, and readily twines on fences and arbors. Unfortunately, it also "reaches out" to climb nearby trees and shrubs.

As one of its names implies, it has rounded leaves, which occur alternately on the twigs. In comparison, the leaves of the native climbing bittersweet (*Celastrus scandens*) tend to be more elliptical or ovate. The fruits of the round-leaved bittersweet are borne all along the stem in clusters of 1 to 3, and turn orange in September. The native bittersweet has larger and more attractive clusters of fruits which are often gathered for decorative purposes.

When round-leaved bittersweet escapes from gardens, it can be very invasive. Plants should be controlled by hand weeding, being sure that the roots are also removed. Left unchecked, this plant will eventually shade out shrubs and trees on which it grows, and choking out trees by vining around their branches.

directions. It was introduced several years ago by the U.S. Department of Agriculture as good cover for wildlife and promoted as a "living fence." Unfortunately, it spread into pastures and woodlands with the help of birds, which find the fruits desirable.

Multiflora rose blooms in late spring with clusters of white flowers, which later produce small, red rose hips that may remain on the plant into winter.

Rose rosette disease is a virus that is affecting this plant, and has the potential to eliminate most of the rose bushes which are densely packed. Fortunately, the disease usually does not affect our native roses, such as *Rosa carolina*, but may attack cultivated varieties.

However, multiflora rose continues to spread into new areas and requires aggressive control by mechanically removing large plants and hand-treating smaller infestations.



## CANADA THISTLE

(*Cirsium arvense*)

While there are several species of native thistles, the Canada thistle is a serious invader in fields and pastures throughout the state, and is difficult to eradicate. A small patch can soon turn into a large colony if left unchecked.

This plant spreads by both underground rhizomes and seeds. In tree nurseries, Canada thistle is known to readily reproduce itself from broken rhizomes after a field has been disked.

This robust plant grows to 5 feet in height and the stem and leaves are covered with prickly spines. Numerous lavender flower heads produce many seeds, and the plant also spreads from horizontal roots. Because the root grows several feet deep, this plant is difficult to control by hand-pulling.

Landowners should take steps to keep this exotic from spreading by identifying new plants early and removing them before they have viable seeds, and by eliminating older plants by continued mowing. Even then, cuttings should be removed and burned because any cut flowers will mature and produce seeds. Mowing is usually only a temporary solution. If large areas are involved, herbicide use may be more practical. However, it is usually necessary to re-treat such sites several times and then reseed them with desirable plants.