

Keystone Plant Species for Landscape Use

The term "keystone" is used here (as popularized by Doug Tallamy) to indicate plants that host a significant number of caterpillar species and therefore have an outside impact on the functioning of foodwebs in their ecosystems. Plant genera are listed in descending order: oaks (*Quercus spp.*) host 473 caterpillar species, the highest number of any native plant genus. This ranking comes from the National Wildlife Federation plant finder database ([link listed below](#)).

Woody Plants

<i>Latin Name</i>	<i>Common Name</i>	<i>Notes</i>
<i>Quercus alba</i>	White oak	The most common species in woodlands of eastern MA. Most successful when grown from acorns rather than transplanted (taproot).
<i>Quercus coccinea</i>	Scarlet oak	
<i>Quercus rubra</i>	Red oak	
<i>Quercus velutina</i>	Black oak	
<i>Quercus bicolor</i>	Swamp white oak	Tolerates drought, tough conditions.
<i>Quercus ilicifolia</i>	Scrub oak	Shrubby form, grows to 4 - 10'.
<i>Quercus palustris</i>	Pin oak	Frequently planted as street tree.
<i>Prunus maritima</i>	Beach plum	Shrub or squat tree; large edible fruit.
<i>Prunus pensylvanica</i>	Pin cherry	Fast-growing tree; reaches 30'+ in sun.
<i>Prunus pumila</i> var. <i>depressa</i>	Creeping sand cherry	Prostrate, spreading form; good for rocky sites.
<i>Prunus serotina</i>	Black cherry	Understory tree in shade; grows to 50'+ in sun.
<i>Prunus virginiana</i>	Chokecherry	Shrub or shrubby tree; grows to 15'+ in sun.
<i>Salix discolor</i>	Pussy willow	Multi-trunked shrub; reaches 20' but can be cut back aggressively.
<i>Salix humilis</i>	Prairie willow	Tolerates drought and dry soil better than most willows; ticket forming, reaches 6-12'.
<i>Salix nigra</i>	Black willow	Can grow to 60-80' in optimal conditions; needs a wet spot.
<i>Betula allegheniensis</i>	Yellow birch	Large, slow-growing tree with coppery bark.
<i>Betula lenta</i>	Black birch	Most common species of eastern MA woods; shade tolerant.
<i>Betula populifolia</i>	Gray birch	Fast-growing pioneer species with smooth white bark; typically 30-40', prefers poor, rocky soil.
<i>Populus tremuloides</i>	Quaking aspen	Spreads clonally; good for slope planting with room to spread.
<i>Malus</i> spp.	Crabapple	None native to New England; North American natives not frequently cultivated.
<i>Vaccinium angustifolium</i>	Lowbush blueberry	Does best in acidic, sandy soil.
<i>Vaccinium corymbosum</i>	Highbush blueberry	Does best in acidic, moist soil.
<i>Vaccinium macrocarpon</i>	Cranberry	Trailing shrub; needs acidic, boggy soil.

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<i>Acer rubrum</i>	Red maple	Common street tree; if purchasing a cultivar, check to make sure it is not a hybrid with an Asian species.
<i>Acer saccharum</i>	Sugar maple	Does best with cool summers and cold winters; shade tolerant.
<i>Alnus rugosa</i>	Speckled alder	Thicket-forming; prefers moist spots in sun.
<i>Pinus strobus</i>	White pine	Fast-growing, commonly reaches 80'+.
<i>Carya ovata</i>	Shagbark hickory	Edible nuts; best grown from seed (taproot).
<i>Ulmus americana</i>	American elm	Disease resistant cultivars available.
<i>Crataegus crus-galli</i>	Cockspur hawthorn	Adaptable small tree with oval leaves.
<i>Rubus occidentalis</i>	Black raspberry	Be wary of cultivated varieties, they are often hybridized European subspecies.
<i>Rubus odoratus</i>	Purple-flowering raspberry	Large, fragrant purple flowers; give it space to sucker.
<i>Tilia americana</i>	American basswood	Stately, shade-tolerant tree.
<i>Picea glauca</i>	White spruce	Does best with cool summers.
<i>Corylus americana</i>	American hazelnut	Excellent landscape plant, adaptable to sun or shade.
<i>Fraxinus pensylvanica</i>	Green ash	Common street tree. All ash species are threatened by the invasive emerald ash borer.
<i>Fagus grandifolia</i>	American beech	Shade tolerant; tough to transplant.
<i>Juglans nigra</i>	Black walnut	Edible nuts; can inhibit growth of some common garden plants.

Remember! On the whole, woody plant genera host more caterpillar species than herbaceous ones do. For example, goldenrods (*Solidago spp.*) host 125 caterpillar species; they fall after walnuts (*Juglans spp.*) in the ranking. Wild strawberry (*F. virginiana*) hosts 81, and sunflowers (*Helianthus spp.*) host 58. Several woody genera not included on this list host more. To see the full ranking, go to the NWF link on the last page.

Adding a keystone tree or shrub will have the biggest impact on the ecological health of your landscape!

Herbaceous Plants

<i>Latin Name</i>	<i>Common Name</i>	<i>Notes</i>
<i>Solidago caesia</i>	Bluestem goldenrod	Clumping woodland species with axillary blooms.
<i>Solidago flexicaulis</i>	Zig-zag goldenrod	Small, shade tolerant species; good groundcover.
<i>Solidago nemoralis</i>	Gray goldenrod	Small species that rarely grows above 2-3'. Thrives in sun and poor, rocky soil.
<i>Solidago odora</i>	Sweet goldenrod	Clumping species that thrives in sandy acidic soil.

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<i>Solidago puberula</i>	Downy goldenrod	Clumping species with rod-like flower clusters; good in sun or part shade; prefers poor soil.
<i>Solidago rugosa</i>	Wrinkleleaf goldenrod	Adaptable spreading species found in a wide range of conditions.
<i>Solidago sempervirens</i>	Seaside goldenrod	Grows in sand dunes and cracks in pavement; will get large in soil that contains organic matter; cut back in June.
<i>Fragaria virginiana</i>	Wild strawberry	Does best in sun; makes a good ground cover particularly when mixed with other low-growing plants; spreads aggressively with runners.
<i>Helianthus divaricatus</i>	Woodland sunflower	Does best on dry slopes with dappled sunlight; grows to 5' and spreads stoloniferously.
<i>Helianthus decapetalus</i>	Thinleaf sunflower	Grows in moist spots in sun or shade; reaches 5-6' and spreads stoloniferously.
<i>Helianthus tuberosus</i>	Sunchoke	Grow to harvest tubers; single plant can colonize 5' patch in one season.
<i>Eupatorium hyssopifolium</i>	Hyssop-leaved boneset	Does best in sunny dry sites; delicate foliage and clouds of white flowers; re-seeds readily.
<i>Eupatorium perfoliatum</i>	Common boneset	Thrives in sunny, moist sites; spreads by rhizomes to form small clumps; typically 2-4' tall.
<i>Viola sororia</i>	Common dooryard violet	You probably already have this growing in your landscape! Aggressive, but shares space with other plants. Good in a matrix groundcover.
<i>Lupinus perennis</i>	Sundial lupine	Prefers sandy soil, sun or dappled shade. Beware the larger hybrid lupines or West Coast native <i>Lupinus polyphyllus</i> , which have naturalized but do not provide the same ecological value.
<i>Geranium maculatum</i>	Wild geranium	Adaptable spring wild flower that does well in part sun or shade. Easy to grow in typical garden conditions.
<i>Panicum virgatum</i>	Switchgrass	Warm season bunch grass that thrives in sun and can tolerate harsh conditions. Use this instead of <i>Miscanthus</i> and other popular Asian ornamental grasses!
<i>Hypericum prolificum</i>	Shrubby St. John's wort	Really a woody plant; mounding shrub that grows in a wide range of conditions; abundant spherical yellow flowers; can be cut back regularly.
<i>Hibiscus moschuetos</i>	Swamp rose mallow	Tall wildflower (6') with the largest blossom of any plant in our region. Needs a sunny wet spot.

Full keystone plant species ranking: <https://www.nwf.org/nativeplantfinder/plants>