

News & Views

for New Hampshire's Green Industry

July-September, 2004

Alternatives to Invasive Landscape Plants

The state Invasive Species Committee, whose members are appointed by the Commissioner of Agriculture, recently finalized a list of 18 plant species that are immediately prohibited from sale, transport, distribution, propagation or transplantation in New Hampshire. In addition, three species were deemed to be prohibited as of January 1, 2007, which allows for existing stocks of these species to be sold until that date. These three species (including all their cultivars and varieties) are *Euonymus alatus* (Burning bush), *Berberis thunbergii* (Japanese barberry), and *Acer platanoides* (Norway maple). All three are currently prominent in the regional landscape plant palette, and their loss will potentially have a large economic impact on nursery and landscape businesses.

Identifying potential alternatives for these three species has been the focus of several recent industry meetings and discussions and a survey conducted by Cooperative Extension. Concerned nursery owners and growers, landscape architects and designers, landscape contractors, arborists, and others have contributed to the development of the lists of plants presented here. While recognizing that no one plant can directly substitute for all the functions and aesthetic qualities of the invasive plant of concern, the lists provide suggestions suitable for a range of site conditions and plant functions. The plants listed are known to be

adaptable to New Hampshire conditions (within the appropriate hardiness zones) and are currently available or can be brought into production in sufficient quantities to meet future demand.

New Hampshire Prohibited Invasive Species List*

<i>Ailanthus altissima</i>	Tree of heaven
<i>Alliaria petiolata</i>	Garlic mustard
<i>Berberis vulgaris</i>	European barberry
<i>Celastrus orbiculatus</i>	Oriental bittersweet
<i>Cynanchum nigrum</i>	Black swallow-wort
<i>Cynanchum rossicum</i>	Pale swallow-wort
<i>Elaeagnus umbellata</i>	Autumn olive
<i>Heracleum mantegazzianum</i>	Giant hogweed
<i>Iris pseudoacorus</i>	Water-flag iris
<i>Ligustrum obtusifolium</i>	Blunt-leaved privet
<i>Lonicera bella</i>	Showy bush honeysuckle
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Lonicera morrowii</i>	Morrow's honeysuckle
<i>Lonicera tatarica</i>	Tatarian honeysuckle
<i>Polygonum cuspidatum</i>	Japanese knotweed
<i>Rhamnus cathartica</i>	Common buckthorn
<i>Rhamnus frangula</i>	Glossy buckthorn
<i>Rosa multiflora</i>	Multiflora rose

Prohibited Invasive Species as of Jan. 1, 2007

<i>Acer platanoides</i>	Norway maple
<i>Berberis thunbergii</i>	Japanese barberry
<i>Euonymus alatus</i>	Burning bush

*this list does not include species already prohibited since 1998 under RSA 487:16-a of the NH Dept. of Environmental Services.

Alternatives for *Euonymus alatus*, (Burning Bush)

Burning bush is a popular component of the landscape, selected primarily for its brilliant fall color. It's adaptable nature and stress tolerance allow it to thrive in shade or sun and throughout a wide range of soil conditions. It has a dense, wide-mounded or spreading form up to 20' wide and 20' high at maturity. Consider the following alternatives when selecting large shrubs for fall color.

- **American cranberrybush viburnum** (*Viburnum trilobum*) - Native, hardy throughout the state; coarse in texture and form, adaptable to most soils, full sun or partial shade. Cultivars such as 'Alfredo' and 'Redwing' have been selected for superior fall color. To 8-10' tall and wide.
- **Highbush blueberry** (*Vaccinium corymbosum*) - acidic soils, full sun to partial shade; native, hardy to zone 3, slow in growth, upright, spreading form up to 12' tall and 6-8' wide. Two dual-use varieties for New Hampshire are 'Spartan', with brilliant red fall foliage, and 'Bluejay' with orange fall foliage.
- **Redvein enkianthus** (*Enkianthus campanulatus*) - Fall color varies, gold to red; pink to white flowers appear in spring; upright, open habit, 6-8' tall and wide, slow growth. Requires acid, moist soil, full to partial sun, zone 4 or 5.
- **Fothergilla** (*Fothergilla gardenii* or *Fothergilla major*) - yellow, orange and red fall color, all on the same plant. Fragrant, bottlebrush flowers in spring. *F. gardenii* (2-4' high and wide) is a smaller version of *F. major*, (6-10') Forms colonies from suckers. Acid, moist soil, full to partial sun, zone 4 or 5.
- **Red chokeberry** (*Aronia arbutifolia*) - Native, slow-growing, 6-10' high and 3-5' wide, suckering. Adaptable to most soil conditions, sun to partial shade, to zone 3 or 4. Attractive red fruit and red to purplish fall foliage. 'Brilliantissima' is a cultivar selected for superior red fall color; 'Autumn Magic' is a selection of black chokeberry, *Aronia melanocarpa*.

Alternatives for *Berberis thunbergii* (Japanese barberry)

Japanese barberry is a durable, dense mounded, low-maintenance plant, most popular for its red or purple-leaved cultivars which add color to the border. Potential alternatives include some that provide the red color but not the compact form, and others that provide the desired form but not the red color. Unfortunately, it's hard to find both in one plant.

- **Weigela** (*Weigela florida*) - New purple-leaved cultivars of this plant such as the low-mounding 'Midnight Wine' and the larger 'Wine and Roses' have prolific pink flowers as well. Spreading, dense rounded shrubs can be cut back hard during the winter. Full sun, adaptable to many soils, zone 4 or 5.
- **Spiraea species** (*S. japonica*, *Spiraea x bumalda*) - Many new compact cultivars with a dense mounded form, improvements over the old standard 'Anthony Waterer'. Foliage color variations add interest, but so far none are purple. Flower color ranges from white to vivid pink. Hardy to zone 4.
- **Slender deutzia** (*Deutzia gracilis*) - Low, broad mounding form, zone 5; tough and adaptable. 'Nikko' is a graceful low shrub with abundant white flowers in spring and attractive burgundy fall color.
- **Common ninebark** (*Physocarpus opulifolius*) - Hardy, durable and adaptable, upright grower, coarse in texture. Two new purple-leaved cultivars — 'Diabolo' (8-10') and 'Summer Wine' (5-6'). White flowers, exfoliating bark.
- **Shrub roses** (*Rosa* species and hybrids) - All except redleaf rose, *Rosa glauca*, have green leaves. Proper selection of varieties is critical, especially for disease resistance and winter hardiness.

Alternatives for *Acer platanoides* (Norway maple)

Norway maple is one of the most frequently planted street trees in the U.S., due to its rapid growth rate, adaptability, ease of transplanting, and tolerance of urban conditions such as limited

soil volume and exposure to road salt. 'Crimson King' has maroon-red leaves and has become a favorite shade tree. Selecting an alternative must be based on the conditions at the intended planting site. While there is no shortage of tree species to choose from, most are not as widely adaptable and tolerant as Norway maple, and very few have red leaves.

Some salt tolerant shade trees, listed from largest to smallest mature size:

1. **Northern red oak** (*Q. rubra*) may be slow to establish and grow, but makes a nice shade tree for lawn areas. Acorns may be an annoyance to some people but the squirrels love them. 75' tall x 60' wide.
2. **Red maple** (*Acer rubrum*) has red spring color when in bloom, turning green as the foliage appears. Native; most cold hardy when grown from northern seed stock or grafted onto hardy rootstock. 75' tall x 60' wide. Best choice for wet areas.
3. **Ginkgo** (*G. biloba*) male trees are desirable because they lack the smelly fruit. Slow growing but very long lived, nice yellow fall color; salt, heat and drought tolerant. 75' x 40'.
4. **Japanese tree lilac** (*Syringa reticulata*) is a good choice for a smaller tree. It has lilac-type white blossoms in summer (but not the lilac fragrance) and attractive cherry-like bark. 30'x20' at maturity; more compact cultivars available.

Some red-leaved trees:

5. **European beech:** 'Riversii' beech (*Fagus sylvatica*) is one of the few large shade trees with purple leaves. Beautiful in parks and large lawn areas, this tree becomes enormous over time, so doesn't belong in most home landscapes and certainly is not a street tree. 60' x 45'.
6. **Flowering crabapple, plum and cherry:** For those who must have a purple-leaved tree, a few cultivars of flowering crabapple, plum or cherry fit this order. Much smaller than Norway maple. Choose disease-resistant cultivars. Cherry and plum are bound to be short-lived.

This is an abridged version of a fact sheet which will be posted on our web site this summer, along with photos of the suggested alternatives. Go to <http://ceinfo.unh.edu>, then click on Agriculture, then on Landscape, Turf and Nursery. The information is also being incorporated into posters which will be distributed to garden centers in the fall. If you have questions

or comments on the plant choices, please email me at cathy.neal@unh.edu or call 862-3208.

Cathy Neal

Biology and Control of the Viburnum Leaf Beetle – A New Pest in New Hampshire

The Viburnum Leaf Beetle (*Pyrrhalta virburni*), is fast becoming a very serious pest of Viburnum in the northeast. Landscapers and nursery personnel need to recognize its damage and take appropriate control action.

Distribution: The native range of this beetle is most of Europe. It was discovered in Ontario, Canada in 1947. Since then it has spread to Quebec, New York, Ohio, parts of Maine, Vermont, and New Hampshire. In New Hampshire, we have found it in the towns of Union, Wakefield, Gilmanton, Etna, Hanover, Hooksett, and Middleton. No doubt it occurs elsewhere in NH.

Host plants: The preferred species of viburnum are: *V. opulus* (European highbush cranberry), *V. dentatum* (arrowwood), *V. trilobum* (American cranberrybush) and *V. rafinesquianum* (Rafinesque viburnum). Less preferred species are: *V. lentago* (nannyberry), *V. acerfolium*, *V. sargentii* (Sargent viburnum), *V. lantana* (wayfaringtree viburnum), and *V. prunifolium* (blackhaw viburnum). Resistant species are: *V. carlesii* (Koreanspice viburnum), *V. burkwoodii* (Burkwood viburnum), *V. plicatum* var. *tomentosum* (doublefile viburnum), *V. x juddii* (Judd viburnum), *V. x rhytidiphyllodes* (lantaphyllum viburnum), and *V. rhytidiphyllum* (leatherleaf viburnum).



Photo by Paul A. Weston
Cornell Univ.

Pest Description: The adult beetle is about 0.2 inches long and brownish, longer than it is wide. The adults are less likely to be seen. The soft bodied larvae are 0.4 in long when mature. The larvae are covered with many black patches on a pale yellow body. They feed in a group on the foliage.

Injury: The adult beetle and larvae feed on the foliage. The larvae at first chew holes in the leaf. In severe infestations, the leaves will be consumed except for the veins and the entire bush is defoliated. No other pest will consume viburnum as voraciously as this leaf beetle. Repeated defoliation of the shrub over 2-3 years will often kill the plant.

Life cycle: The Viburnum Leaf Beetle has only 1 generation per year. After mating the adult female begins laying eggs in July and will continue to October or the first heavy frost. Each female can lay up to 500 eggs. The female will chew a hole in a twig and lay several eggs in it. The hole is then sealed with a mixture of chewed bark and excrement which hardens like cement. This cement cap prevents predators from eating the eggs and keeps the eggs moist. These egg chambers can be seen as a prominent row of bumps along the twig. The eggs will spend the winter in these chambers. Larvae will hatch out in early May as temperatures warm. The young larvae then migrate to the underside of emerging leaves and feed as a group. The larvae feed from May to mid June. When the larva reach maturity in June, they crawl down the shrub and pupate in the soil. Adults emerge in July, mate, and start the cycle all over again.

Events

- July 28** – **NHPGA Summer Meeting.** Gold Star Sod Farms & Wholesale Nursery, Canterbury, NH. Tours, educational program, trade show, and barbeque. For info, contact Nancy Adams at 292-5238.
- August 4** – **UNH Woodman Horticultural Farm Twilight Meeting,** 5:30 p.m. Please see insert for details.
- September 15** – **NHLA Twilight Meeting** at Bedrock Farm, Lee, with Jill Nooney, owner of Fine Garden Art. For more info, contact NHLA at 1-800-639-5601.
- October 18-20** – **New England Greenhouse Conference,** Worcester, MA. For more info: www.uvm.edu/%>Epass/greenhouse/negc.html
- November 9** – **UNH and NHPGA Retail and Garden Center Seminars.** Exeter and Brentwood. Save the date!

This newsletter is a cooperative effort of the Ornamentals Extension Educators and Specialists at the University of New Hampshire. It is published quarterly. It's purpose is to inform and update industry members on issues and research relevant to the production, use and maintenance of ornamentals and turf in New Hampshire. Contributors for this issue:

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Comments and questions are welcome...please call Cathy Neal at 603-862-3208. Address corrections, additions, and deletions should be faxed to 603-862-2717 or phoned in to Cheryl Estabrooke at 603-862-3200.



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