

# New England Native Shrubs for Sustainable Landscapes

A manual for landscape use, propagation and production of lesser known native shrubs with ornamental potential.



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## *Ceanothus americanus* New Jersey tea

### Natural history

The genus *Ceanothus* belongs to the buckthorn family (Rhamnaceae). There are approximately 50 species within the genus, but almost all are found in the western half of the United States and only *Ceanothus americanus* (New Jersey tea) is found along the East Coast. The full native range of *C. americanus* extends from Quebec to Minnesota and south to Texas and Florida. New Jersey tea is often found in dry, open woods, woodland edges, pine barrens, and in difficult locations characterized by sandy or rocky soils such as banks along highways. Plants fix nitrogen through root nodule associations with bacteria from the genus *Frankia*. New Jersey tea is an important nectar plant for native insects, including many butterflies, whose larvae also feed on the plant. Further it is a specialist plant for several species of Lepidoptera, some of



which are endangered in the northeast U.S. Leaves can be used to make tea.

### Ornamental traits

New Jersey tea is an attractive, compact, deciduous shrub that reaches 3 feet tall. Its slender, upright stems form dense, broad mounds. Plants are most known and recognized by their 1-2" long spiked inflorescences, composed of small white, fragrant flowers. Inflorescences are produced on long stalks that originate from the leaf axils at distal ends of shoots. Flowers appear in mid June to July, when little else is blooming. The simple, alternate leaves are 2 to 3" long and narrowly oval with a pointed tip. Leaves are dark green in color. Fruit capsules are three-lobed and start out red and turn black when ripe.

### *Ceanothus americanus* flowers and fruits



Wild *C. americanus* at: A) Edge of woods, Mansfield Hollow State Park, CT. B) Gravel soil and full sun, Windham County Airport, CT.





### Landscape uses

New Jersey tea performs best in full sun and well-drained soils, but once established plants it will tolerate dryness. It is a good candidate for sites that have sandy soil that is excessively well drained. Plants will handle light shade, however, wet areas should be avoided. New Jersey tea can be used in mass plantings on sunny slopes or to stabilize a bank. It is a good foundation plant due to its compact size and adaptability to inhospitable conditions. New Jersey tea is an excellent shrub for butterfly gardens.

### Propagation and culture

Optimal seed germination (30-50%) is achieved by exposure to two minutes of boiling water followed by 60-90 days of cold moist stratification. I was able to achieve 50-60% success propagating New Jersey tea from softwood stem cuttings taken in June, treated with 3000 ppm IBA-talc rooting hormone, and stuck in a peat:perlite:vermiculite rooting me-



**Sexual propagation of *Ceanothus americanus*.** Left: Recently germinated seedlings with cotyledons. Right: Three month old plants.

dia. Plants grow well in containers using an acidic bark:peat:sand media mix with controlled release fertilizer. Spring planting into the landscape is recommended for container grown plants. Plants established in the garden may be pruned for shape during dormancy. It is not uncommon in some winters for New Jer-

**Clonal production of *Ceanothus americanus* over three growing seasons. A) Softwood stem cuttings. B) Small pot liner. C) Quart sized container plant. D) Recently potted one-gallon container plant.**



sey tea to experience dieback, however, plants generally regenerate from lower portions of the plant much the way subshrubs do. It is unclear whether dieback is due to cold injury or poor winter drainage, or that its just part of the way the plant grows.



## *Comptonia peregrina* Sweet fern

### Natural history

Native to eastern North America from Nova Scotia to North Carolina, western South Carolina, and northern Georgia, and west to Saskatchewan, Minnesota, Illinois and Tennessee. In Connecticut, plants are found in dry piney woods, exposed gravelly slopes, abandoned pastures, barrens, road cuts and highway embankments. Plants are able to grow in dry, sandy and infertile soils with full sun exposure. Plants tolerate infertile soils because they fix nitrogen through root nodule associations with actinobacteria. Used by the Native Americans as a tonic to promote overall good health. Attracts birds such as grouse and killdeers.



### Ornamental traits

Sweet fern is desirable for the sweet fragrance it produces, most noticeably on warm sunny days, and its dark green, fern-like foliage. The alternate, simple leaves are linear, 5 to 12 cm long and 1 to 1.5 cm wide with coarsely



**Above:** Wild *Comptonia peregrina* alongside a dirt road in Maine and fern-like foliage.

**Left:** Winter stem and cluster of bracts.

toothed margins. Grows up to 3 ft tall and, in full sun, has a dense mounded habit. Plants are monoecious or dioecious and the edible fruit or nutlet is enclosed in a burr-like cluster of bracts. Like other members of the bayberry family (Myriaceae), sweet fern spreads slowly by underground rhizomes to eventually form

**Wild *Comptonia peregrina* in Willington, CT colonizing the gravelly bank of a flood basin in early spring, autumn and winter (left to right).**





colonies. In a suitable location, plants may spread 2-3 ft from the mother plant over the course of a few years.

### **Landscape uses**

Sweet fern should be used in mass plantings or in repetition in the landscape. Can be a unique addition to an herbal garden. Plants can be used to stabilize a gravelly bank by a driveway or road due to its rhizomatous nature and salt tolerance. Plants will tolerate light shade, but will not develop as dense a habit as in full sun. Avoid wet areas, since sweet fern dislikes “wet feet”.

### **Culture**

Spring planted 1 or 2-gallon container plants will establish quickly. Plants may benefit from light mulching during establishment. Fertilizer should not be needed since plants fix nitrogen. This plant is low maintenance once established and requires only occasional removal of old or damaged shoots.

### **Propagation**

Sweet fern does not propagate from stem cuttings and seed propagation is challenging since plants produce relatively few seeds and the seed has a complex dormancy. The easiest way to propagate is by rhizome or “root cuttings”. Dig plants in the fall and cut rhizomes into 2 in sections. Lay sections in community flats or small pots filled with vermiculite or a well draining peat based medium and cover sections lightly with media. Keep in a cool place over the winter where they won’t freeze and don’t let the media dry out. Buds will break along the rhizomes and grow into plants in spring. Alternatively, dig sweet fern sod (mats of rhizome found in the top few inches of soil) from natural plantings and transplant directly into the landscape in fall or early spring. Mulch and keep moist until established.

**A) New shoots expanding from rhizome cutting.**

**B) One-gallon container plant. C) Container grown plant established for one year in landscape.**







Some of the many landscape uses for *Comptonia peregrina*: A) Full sun, well drained shrub border. B) Hedgerow. C) Naturalizing. D) Groundcover. E) Rock garden. F) Parking lot island.



## *Cornus racemosa* Gray dogwood

### Natural history

Gray dogwood is one of several shrubby dogwoods that are found native in the northeastern United States. The native range of gray dogwood extends from parts of Maine and southeastern Ontario west to Minnesota and south to Illinois, Missouri and Virginia. Most of the shrubby dogwoods, including gray dogwood, are found in damp or swampy areas along stream banks and at the margins of ponds and lakes. Gray dogwood has demonstrated adaptability to diverse sites and is also found growing on old farm fields, at the edges of woods, and even along roadsides characterized by dry, gravelly soils. In Connecticut gray dogwood typically grows to 5 feet tall, but in the Midwest plants are larger, growing to heights of 10-15' feet. Some sources feel that the gray dogwoods in the mid west may represent a different species *Cornus foemina*. Gray dogwood fruits are relished by dozens of species of birds.

### Ornamental traits

Gray dogwood is a suckering shrub, with a somewhat similar habit to the well known *Cornus stolonifera*, but gray dogwood is a more fine textured plant. Its fine texture is due to smaller leaf size and branching habit, whereby shoots grow straight upwards at first and then



**Above: Colonizing open spaces.**

**Below: Flowers (left) and unripe fruits (right).**

arch over and branch profusely. Gray dogwood will form dense thickets that are taller at the center and tapering toward the edges. In full leaf, colonies of gray dogwood create a rolling,







**A-B) White fruits and bright red pedicels; C-D) Maroon red fall color.**

unbroken surface that provides a wonderful façade. Unlike the majority of shrub dogwoods that have flat-topped flower clusters, gray dogwood flowers clusters are more upright and panicle shaped. Flower clusters are two-inch in diameter and comprised of numerous white four-petaled, star-like flowers. Fruits ripen to porcelain white in late summer on pedicels that simultaneously develop a unique coral red color. The contrast between the white fruits and brightly colored pedicels makes for a stunning display. Pedicels persist on the plants for a while after fruit removal by birds. In fall the leaves turn muted hues of red, orange and purple.

#### **Landscape use**

Gray dogwood is excellent for mass plantings and looks particularly nice from summer through fall. Use gray dogwood for naturalizing at the wood's edge, as a screen or in the

shrub border. Gray dogwood may be used to transition between taller plants and low growing plants, because of its unique habit of being peaked at the center and low towards the fringes. Plants are desirable for their fruit impact and for attracting birds to the yard. Gray dogwood exhibits drought tolerance and is

**One of the larger growing mid-west genotypes.**





adaptable to difficult site conditions. With the cultivars available today, gray dogwood may be incorporated into the landscape as a small tree, a large or medium shrub or a dwarf shrub. Most of the cultivars available were developed by Lake County Nursery of Perry, Ohio and were introduced as the Counties of Ohio™ series of *Corunus racemosa*. The Counties of Ohio™ cultivars ‘Hurzam’ Huron™ and ‘Muszam’ Muskingum™ and the cultivar ‘Slavin’s Dwarf’ are compact, low growing forms (four feet and under) that are suitable for foundation plantings and smaller landscape settings with constrained garden beds.



Simple layering or division may be option for small-scale production. Any reasonable garden soil will support growth of gray dogwood and either a full sun or partly shaded location is fine. Gray dogwood can be pruned to form hedges, for size control or for purposes of renewal. Plants may be browsed by deer but rejuvenate quickly.

**Propagation and culture**

Propagation by seed and cuttings are moderately difficult. Fruit collection is complicated by competition from birds. Seeds require warm stratification for two to five months followed by cold stratification for three to four months.

**Above: Container plant produced from seed.**

**Right: Two plants growing in the landscape suitability plantings on the UConn campus.**



***Corylus americana* and *Corylus cornuta*  
American filbert and Beaked filbert**

**Natural history**

Beaked and American filbert belong to the Betulaceae (Birch) family and are native to eastern North America where their ranges overlap. American filbert ranges from southern Maine to western North Carolina, northern Georgia, and northern Alabama, and west to southeastern Alberta, eastern North Dakota, and northeastern Kansas. Beaked filbert is the more northern species and ranges from Newfoundland south along the spine of the Appala-



***Corylus cornuta* at the Minnesota Landscape Arboretum.**





**Wild in CT, *Corylus americana* along rock wall (left) and *Corylus cornuta* in dry woods (right).**

chian Mountains to northern Georgia, west through southern Ontario, northern Wisconsin, and northern Minnesota to Saskatchewan. There is a west coast variety of the beaked filbert (*Corylus cornuta* var. *californica*), found in California and scattered throughout the Rocky Mountains, that is a larger plant and morphologically distinct from the eastern type. Some taxonomists refer to the eastern type as *Corylus cornuta* var. *cornuta*, but I'm going to call the plant *Corylus cornuta*. In Connecticut, plants are found along rock walls and the edges of woods, on hillsides, clearings and in thickets. Plants grow in dry, well-drained soils and tolerate considerable shade. *C. cornuta* may exhibit greater shade tolerance than *C. americana*. The edible filbert nuts are valuable wildlife food for birds, small mammals and even people! Dense habit provides cover for many nesting song birds.

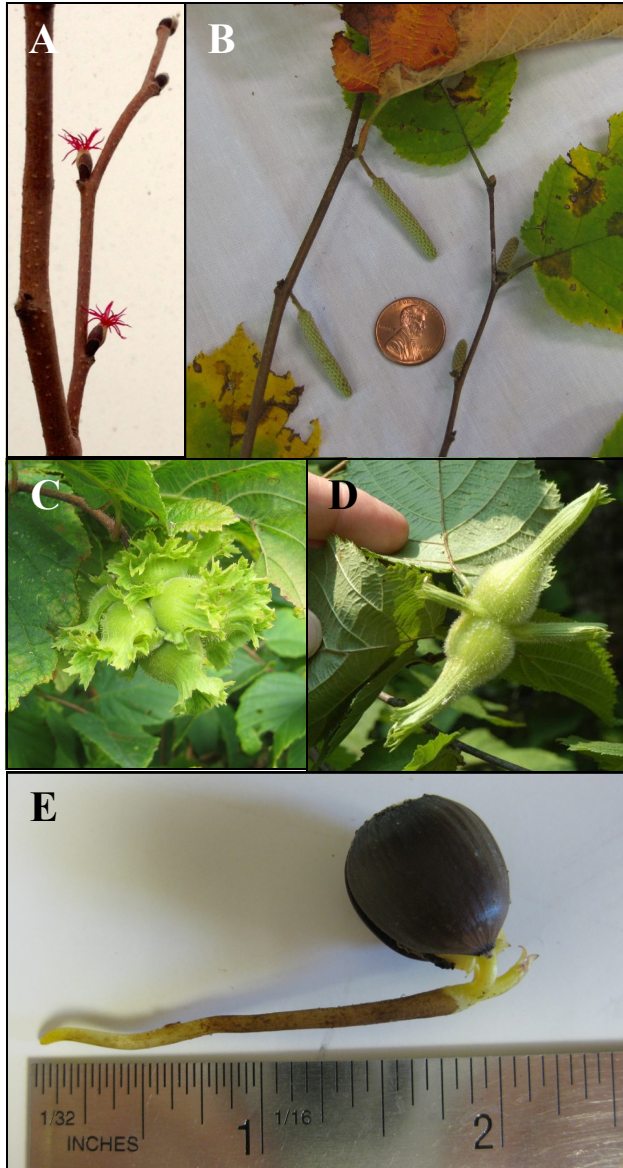
#### **Ornamental traits**

Plants reach heights of 5 to 12 feet and widths of 4 to 8 feet. In southern New England, however, beaked filbert plants tend to be smaller in stature, on the order of 3 to 6 feet. The beaked filbert has spreading branches whereas American filbert is more upright and produces strong vertical basal shoots. Plants have zigzagging stems and alternate, simple leaves that are broadly oval with a pointed tip. Leaves are 2 to 6 inches long and 1 to 3 inches wide, with a roughened upper surface and sharply toothed margins. The leaf blade is relatively thin and the upper surface is a matte dark green while the underside is paler in hue. American filbert leaves turn yellowish with auburn highlights in the fall and the Beaked filbert leaves turn a clear, pale yellow. Plants are monoecious and the male flowers are catkins, present in fall and expanding in early spring. The female flowers

**Landscape plantings of *Corylus americana* on the UCONN campus in late spring, late summer and autumn (left to right).**







**Flower to fruit:** A) Female flower on *C. cornuta*. B) Male catkins on *C. americana* (left ) and *C. cornuta* (right). C) Ruffled involucre of *C. americana*. D) beaked involucre of *C. cornuta*. E) Nut with expanded radical and epicotyl.

are very small with magenta stigmas and bloom in early spring as well. The edible filbert nut is surrounded by an involucre, which is a papery, green leafy-like covering. American filbert has a short involucre with a ruffled, tattered fringe and resembles a green flower. Beaked filbert, as the plants name suggests, has a drawn out involucre that resembles a

long tubular snout. Plants spread by rhizomes and may form thickets. At first glance, it can be difficult to distinguish beaked and American filbert however, there are several less obvious traits that are consistently different between the two species that are useful for identification purposes (see table).

#### **Landscape uses**

These plants have been unused in the landscape. Although they do not display vibrantly colored flowers, they have a pleasant form, interesting textured leaves, edible fruits with unique involucre and respectable fall color. In full sun, plants produce a dense rounded habit, which is contrary to what is seen in the wild where plants are growing in moderate to dense shade. Plants perform well in full sun to part shade and well-drained soils. Greater sun exposure will produce a more uniform looking

**Below:** *Corylus americana* ‘Little Filly’ in the field and in containers.





Ornamental trait	<i>Corylus americana</i>	<i>Corylus cornuta</i>
Habit	More upright	More spreading
Twig hairs	At distinct right angles to twigs	Acute angle to twig
Involucre (fruit) shape	Bracts stretch into a long narrow beak	Short, ruffled bracts
Male catkins	Hang on short stumps	Sessile to twig
	<i>Unexpanded male catkins (visible in fall and winter) on American filbert are 1.5 inches long and distinctly longer than beaked filbert (0.5 inches).</i>	
Leaf	Cupped upward	Flat
Fall color	Russet orange	Pale yellow

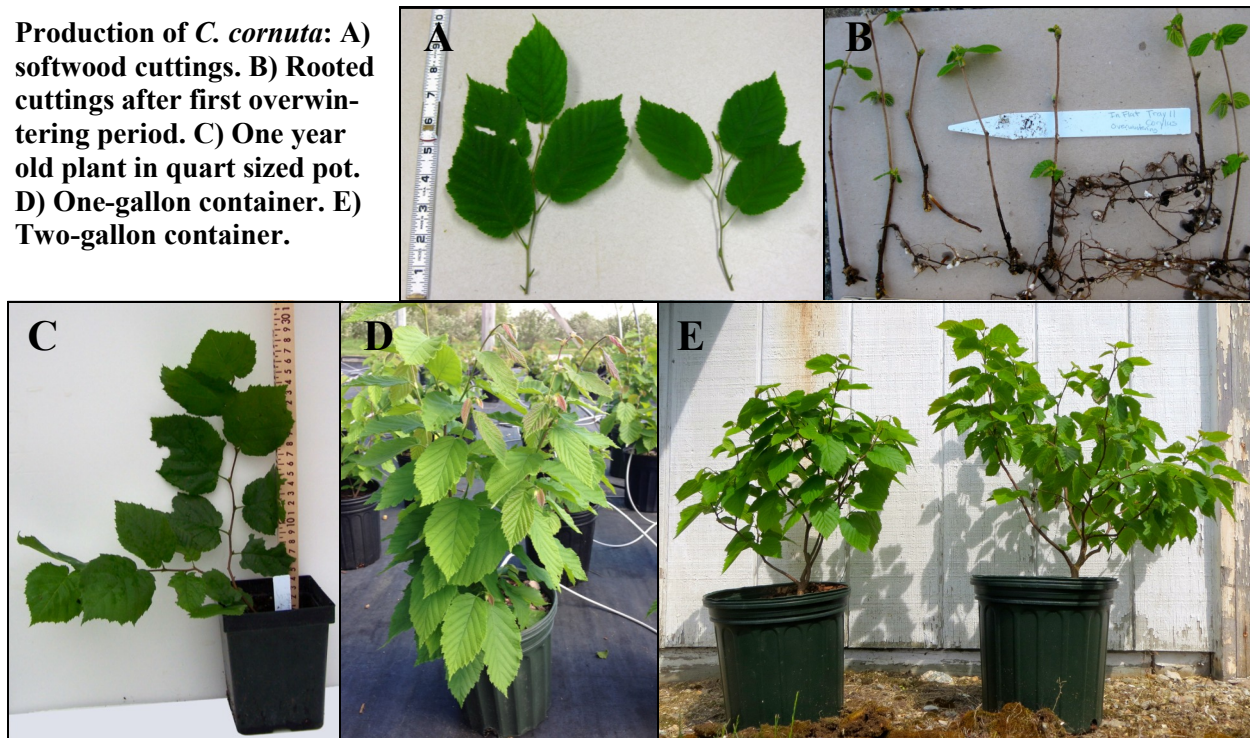
plant. Use plants in groups to create a naturalistic landscape, or along the edge of woods to integrate the cultivated yard with the natural surroundings. Tests at UConn have shown that plants are adaptable to harsh cultivated conditions such as compacted, infertile soil, high sunlight, wind, and pedestrian pressure.

### Culture

Plants will be hard to find at your local garden center. I have found that American filbert is easier to obtain than beaked filbert. Hopefully

the research we are doing at UConn will make these plants more available. Spring-planted 1 or 2-gallon container plants will establish after one growing season. Plants may benefit from light mulching during establishment. Fertilizer should not be applied the first year after planting, however, supplemental watering for several weeks following planting is important for good establishment. These plants are low maintenance once established and require only occasional removal of old or damaged shoots.

**Production of *C. cornuta*:** A) softwood cuttings. B) Rooted cuttings after first overwintering period. C) One year old plant in quart sized pot. D) One-gallon container. E) Two-gallon container.





### Propagation

Seed propagation is possible, but filbert seeds are large and single plants do not produce copious quantities of seed. In addition, competition with wildlife for seeds can be challenging. Seeds have to be stratified soon after collection and not allowed to dry out since this will reduce germination success. Three months of cold stratification should result in approximately 50% germination. Plants grown from seed will be variable in plant size and vigor based on my experience with American filbert. When purchasing seed make certain the seeds are var. *cornuta* and not var. *californica* since var. *californica* seeds will produce larger plants that are less well adapted to northeast conditions. Plants can be propagated by stem cuttings, taken in July, and treated with 3000 ppm IBA-talc rooting hormone. I have successfully propagated both filbert species from



**Research continues to optimize growth of *Corylus* in containers to improve production efficiency.**

stem cuttings using a peat:perlite:vermiculite rooting media mix. Rooted cuttings develop rather slowly.

### *Diervilla lonicera* Northern bush honeysuckle

#### Natural history

*Diervilla lonicera*, the northern bush honeysuckle, is native from Nova Scotia west to Saskatchewan, and south to Wisconsin, Michigan and Pennsylvania. It is also found at high alti-

tudes in the Appalachians of West Virginia and North Carolina. There is a closely related species, *Diervilla sessilifolia* or southern bush honeysuckle, which is not native to Connecticut and is found throughout the southeastern United States. The two species are similar in many ways, but it is the southern species that is more commonly available in the nursery trade. As their names suggest, these plants be



**Left: *Diervilla lonicera* growing in a dirt parking lot island at Coastal Maine Botanical Garden.  
Right: Flower and foliage**





**Wild *Diervilla lonicera* growing atop Mt. Megunticook in Maine (left), cascading down a rocky slope in Maine (center), and growing along side a dirt road in Connecticut (right).**

long to the honeysuckle or Caprifoliaceae family. Northern bush honeysuckle is found in dry, deciduous woodlands often where there is dappled sun due to rock outcroppings or road cuts. It grows in sandy, infertile soils and seems able to tolerate rather dry, hot and sun-exposed sites. I admired this plant thriving in the baking sun on a rocky bald atop Mt. Megunticook in Camden, Maine. Butterflies are frequently seen visiting bush honeysuckle flowers.

### **Ornamental traits**

Northern bush honeysuckle is a low growing shrub that reaches 1 to 3 feet tall. Plants grown in ample sunlight exhibit a cascading waterfall look, where the shoots arch outward from center. In deep shade, the habit is more open and irregular. The opposite, lance-shaped leaves taper to a point and are similar in appearance to *Weigela*. New shoot growth has an attractive reddish tinge that slowly fades to green. The cultivar ‘Copper’ features more prominent reddish new growth. One identifiable difference between the northern and southern bush honeysuckles is that the leaves of the northern species sit on a short petiole while the leaves of the southern species are sessile to the stem. Another notable difference between the two is that the southern species is larger, reaching heights of 3 to 5 feet. Tubular, yellow flowers, ½ inch long, bloom in bunches at the tips of shoots starting in June. The flowers are not overwhelming in showiness, but they are

dainty and set off nicely against the green summer foliage. At the start of the flowering period, expect a big bloom and then plants will bloom more or less continuously throughout the summer. Fall foliage color is reddish-purple.

### **Landscape uses**

Look to northern bush honeysuckle for use in difficult sites that are hot, dry and sunny. Plants will perform reasonably well in moderate shade, but dense shade should be avoided. Also avoid wet areas, since northern bush honeysuckle dislikes “wet feet”. Use *Diervilla* in mass plantings or in repetition in the landscape. It can also work well as a facer plant for other more pointedly showy plants. Northern bush honeysuckle spreads slowly by rhizomes and should be used in sites where plants can be allowed to spread and cascade, like on a gravelly bank or above a rock wall. One of the best uses that I’ve seen is on a rocky slope leading to a footbridge that crosses a small stream near Damariscotta, Maine, where plants have been allowed to “waterfall their way down.” Northern bush honeysuckle can be a worthy addition to a butterfly garden due to its extended bloom period.

### **Culture**

Spring or fall planted 1 or 2-gallon container plants will establish quickly. Plants may benefit from mulching during establishment. A light fertilizer can be applied in the second sea-





**Landscape uses for *D. lonicera*: A) Ground cover. B) Massing. C) Parking lot island. D) Specimen. E) Shrub border. F) Integrate constructed landscape into surrounding woodland.**

son following planting. This plant is low maintenance once established and requires only occasional removal of old or damaged shoots. Plants may be pruned for height control or

trimmed to a desired shape, although the natural form really doesn't need improvement. Propagation is easy from stem cuttings, rhizome cuttings and seed.



## *Eubotrys (Leucothoe) racemosa* Sweetbells

### Natural history

*Eubotrys racemosa* (sweetbells) is a member of the Ericaceae family, which includes many popular garden shrub genera such as *Rhododendron*, *Kalmia* and *Vaccinium*. The native range of this plant begins in southern Massachusetts and extends south along the Atlantic coast to Florida and then west to Louisiana. It tends to be most abundant in locations close to the coast. In the wild it is found along swamp margins and hummocks and in low sandy woods. As early as the start of the 20<sup>th</sup> century, sweetbells was recognized by prestigious establishments such as the Arnold Arboretum for its beauty as a garden plant, but it never advanced to garden prominence. Certainly the same characteristics that were attractive almost a century ago still exist in this plant. There seems to be considerable variation within the species with some plants producing wider, more attractive leaves and some plants producing a heavier flower set. Therefore, opportunities exist to make selections with superior ornamental traits.

### Ornamental traits

With only quick glance at a sweetbells plant you may incorrectly think that it is a highbush blueberry because its shape and branching are very similar to highbush blueberry. Sweetbells



**Above:** *Eubotrys racemosa* flowers and two-gallon container plant.

**Left:** Natural landscape planting at Coastal Maine Botanical Gardens.

is smaller in stature (3 to 6 ft. tall at maturity) and it lacks the tasty blue fruits of *Vaccinium corymbosum*. The alternate, simple leaves are 1 to 3 in. long, oval with a pointed tip, and have a short petiole. Foliage is glossy and emerges with a reddish cast before turning dark green in summer and then a spectacular





***Eubotrys racemosa* plants established in the landscape on the UCONN campus in summer , after three seasons (left), and autumn after two seasons (center). Foundation planting (right)**

scarlet red in fall. Some winter interest is derived from the reddish twig color and rose-tinged naked flower buds. Flowers open in May and are held in 2 to 4 in. long, one-sided terminal racemes. The small, white, urn-shaped flowers resemble highbush blueberry or those of drooping leucothoe. Flowers give off a light fragrance that can be detected when close to a sweetbells plant. The fruit consists of a five-lobed capsule containing many tiny yellow seeds.

**Landscape use**

Sweetbells is a plant to consider as a replacement for invasive burning bush because of its excellent red fall color. Furthermore, sweetbells is fairly adaptable to a range of landscape settings and exhibits high deer browse resistance. Use as a foundation plant, screen or in mass plantings. Plants perform well in full sun to part shade and well-drained soils, but will tolerate dry situations once established, as well as transiently wet locations.

**Propagation and culture**

Seed propagation is possible, and seeds require no pre-treatment. In my experience, seed capsules don't always open fully and this could be because the Connecticut plants I have worked with are located at the northern fringe of the



**Above: Vegetative propagation. Rooted softwood cuttings.**

**Below: Potted cuttings following first overwintering period.**







*Eubotrys racemosa* plants is well branched even at a young age. Quart sized plants shown.

## *Lonicera canadensis* American fly honeysuckle

### Natural history

*Lonicera canadensis* is a member of the honeysuckle family (Caprifoliaceae), and the genus has historically been represented in the landscape by a number of exotic species including *japonica*, *fragrantissima*, *morrowii* and *tartarica*. Unfortunately, these exotic species are proving to be highly invasive in the United States. However, there are native species, such as *L. canadensis*, which have ornamental characteristics that might make useful landscape plants. American fly honeysuckle is a northern species native from New Brunswick

to Manitoba and south to Connecticut, Pennsylvania and Michigan. In the wild plants are found growing on rocky, wooded slopes or ravines and in moist or dry woods, but always with good soil drainage. Wild sightings of this plant are rare in Connecticut and it is present only in the northern most parts of the state. In coastal Maine, the plant is commonly found growing along the side of dirt roads with native maple leaf viburnum and beaked filbert.

### Ornamental traits

American fly honeysuckle is a deciduous, low growing (2 to 5 ft. tall), multi-stemmed shrub that freely suckers from the base. Plants are more spreading than upright and the almost horizontal branching produces an open, low-







*Lonicera canadensis* flowers in bud (left), open (center) and resulting fruits (right).

mounded habit. Older plants may provide a multi-tiered branching effect with the first horizontal level being close to the ground. American fly honeysuckle is one of the first native shrubs to leaf out in early spring (late April) and leaves are an attractive lime green color. The opposite leaves are elliptical to egg shaped with a rounded base and pointed tip. Tubular, trumpet-like,  $\frac{3}{4}$  in. yellow flowers are produced in pairs and emerge as the foliage is still expanding. Although flowers do not cover the plant, they have ornamental impact because they expand so early and are prominently displayed on long slender stalks in the axil of the leaves. The fruit is an oval shaped berry, usually in pairs, that ripens to red in summer.

#### **Landscape uses**

Plants perform best in sites with partial shade and well-drained soils. Once established, plants may tolerate drier conditions, but soggy soils and full sun exposure should be avoided. Use American fly honeysuckle for its early spring flowers in informal, naturalistic shrub borders. Plants can also be used in foundation plantings and for massing at the margins of woods.

#### **Propagation and culture**

Seeds of *L. canadensis* exhibit embryo dormancy and, minimally, will require a period of cold stratification to germinate. Plants may be

propagated from stem cuttings taken in May through June, treated with 3000 ppm IBA-talc rooting hormone, and stuck in a peat:perlite:vermiculite rooting media mix. For me, this procedure yielded 50% rooting success. Plants grow well in containers using an acidic bark:peat:sand growing media and controlled release fertilizer. Established container and landscape plants that are given a hard prune during dormancy may respond with dense sucker growth, however, keep in mind this act will remove the following spring



**Wild *Lonicera canadensis* on a rocky, wooded slope in Boston Hollow area of the Yale-Myers Forest, Ashford, CT.**





Softwood cuttings of *Lonicera canadensis* (left) and a one-gallon plant (right).

## *Myrica gale* Sweet gale

### Natural history

*Myrica gale* (sweet gale) is a cold region plant native to the northern latitudes of the northern hemisphere. In North America it ranges from southern New England and New Jersey north to Canada and parts of the upper Midwest, including Michigan, Wisconsin and Minnesota. It is also found in Alaska and down the pacific coast to Oregon. Its range overlaps to some degree with its cousin *Myrica (Morella) pennsylvanica* (northern bayberry) and both species are found in New England. Although I would not consider *M. pennsylvanica* to be a widely

### *Myrica gale* growing wild in Maine



used plant in landscaping, it has certainly received more attention than its lesser-known cousin *gale*. In the wild, sweet gale is found almost exclusively at the edge of water bodies such as lakes, back waters of slow rivers, ponds, swamps and bogs. It's dense habit provides cover for many nesting song birds. Nuts and dried leaves can be used to flavor stews and roasts. Crushed leaves can be used to treat various skin irritations such as poison ivy.

### Ornamental traits

Sweet gale is an upright but spreading, mounded, low growing, deciduous shrub. Plants have a pleasant, candelabra-like, multi-stemmed habit. In full sun, plants are typically three feet tall, but may reach heights and widths of four to five feet. Leaves are alternate, however, their arrangement on the stem gives them a whorled appearance, especially on vertical shoots. Leaves are narrow, spatulate, toothed at the ends and a wonderful frosty lime green color. The foliage is aromatic when crushed or on hot summer days when the sun beats down on plants. Stems are a dark purple-brown with white "dots" or lenticels. *M. gale* is dioecious meaning male and female flowers occur in separate individuals. Male flowers consist of short, amber colored catkins and are quite attractive on plants in early spring. Fe-





*Myrica gale* foliage (left) and established in the landscape on UCONN campus (right).

male flowers are small and only visible upon close inspection of the stems, however they develop into interesting nutlets, at the tips of the stems, resembling miniature mulberries.

#### Landscape uses

One of the nicest features of this plant is its dense, mounded and compact habit in full sun. In part shade plants will stretch and the habit will be slightly more open. Since sweet gale is found by water, the most obvious use for it is along the edges of ponds or wet areas of the garden. However, the plant appears to be adaptable to average garden soils and can be used in groups or mass plantings or as a low

hedge for formal landscapes. Sweet gale is a member of the Myricaceae family, and plants in this family are known for their tolerance of infertile soils and their ability to fix nitrogen through root nodule associations with actinorhizal bacteria. Sweet gale was included in trials at UConn to evaluate native shrubs for their ability to withstand harsh cultivated conditions such as compacted, infertile soil, high sunlight, wind, and pedestrian pressure. Sweet gale has done incredibly well in these trials, exhibiting drought tolerance once established, and I now recommend it for difficult landscape sites. Sweet gale is a good foundation plant due to its compact size and ability to tolerate

*Myrica gale* nutlets in late summer (left), male catkins in early spring (center), established landscape planting on UCONN campus in early spring (right).





reflected light. Site plants near a window to enjoy the aromatic foliage indoors. The frosty lime green sweet gale foliage would combine well with silver foliage plants including artemisia, lamb's ear and Russian sage.

### Propagation and culture

If you want to propagate sweet gale from seeds, then three months of cold stratification at 40°F is a good place to start based on literature reports. I have successfully propagated sweet gale from softwood stem cuttings, taken in late June to early July. I treated my cuttings with 3000 ppm IBA-talc rooting hormone and stuck them in a peat:perlite rooting media mix. In containers, plants can be grown in an acidic bark:peat:sand media mix with controlled release fertilizer. Container plants are amenable to pruning to shape. Spring-planted 1 or 2-gallon container plants will establish after one growing season. Plants may benefit from light mulching during establishment. Fertilizer should not be applied the first year after planting, however, supplemental watering for several weeks following planting is important for good establishment. These plants are low maintenance once established and require only occasional removal of old or damaged shoots.



**Softwood cuttings of *Myrica gale* (top). Rooted cutting in quart sized pots after first over wintering period. Two gallon pots in August, one year after sticking as a cutting.**

## *Prunus pumila* var. *depressa* Creeping sand cherry

### Natural history

*Prunus pumila* var. *depressa* belongs to the Rosaceae, and is a member of a complex of closely related *Prunus* species and subspecies.



Some authorities consider the plant to be *Prunus pumila* var. *depressa* and some consider it be its own species, *Prunus depressa*.

*Prunus pumila* var. *depressa* is the lowest growing species within the complex, rising only 3 to 8 in. off the ground. The native range is eastern Canada and the northeast U.S., and it is present in all the New England states. Its native habitat is specific to river beaches, banks and sand bars. Occasionally, it is found growing on sandy roadsides. Plants provide fruit and habitat for birds and small animals and nectar and foliage for insects.

### Ornamental traits

Creeping sand cherry maintains a low profile (less than 1 ft.) and is considered a ground-





***Prunus pumila* var. *depressa* foliage and flower.**

cover. Branches arch out from the center of plants and then creep along the ground. Plants produce copious amounts of five-petal white flowers in early spring (April to May) as the foliage emerges. The alternate, simple leaves

are 1 to 3 in. long and slender. Leaves initially have an orange tint and mature to lime green with silver undersides and turn orange red in fall. Plants produce small black fruits, typical of other wild cherry species.

***Prunus pumila* var. *depressa* landscape uses: A) Shrub border. B) Rock garden. C) Sunny bank. D) Groundcover (UCONN campus parking lot island).**





### Landscape uses

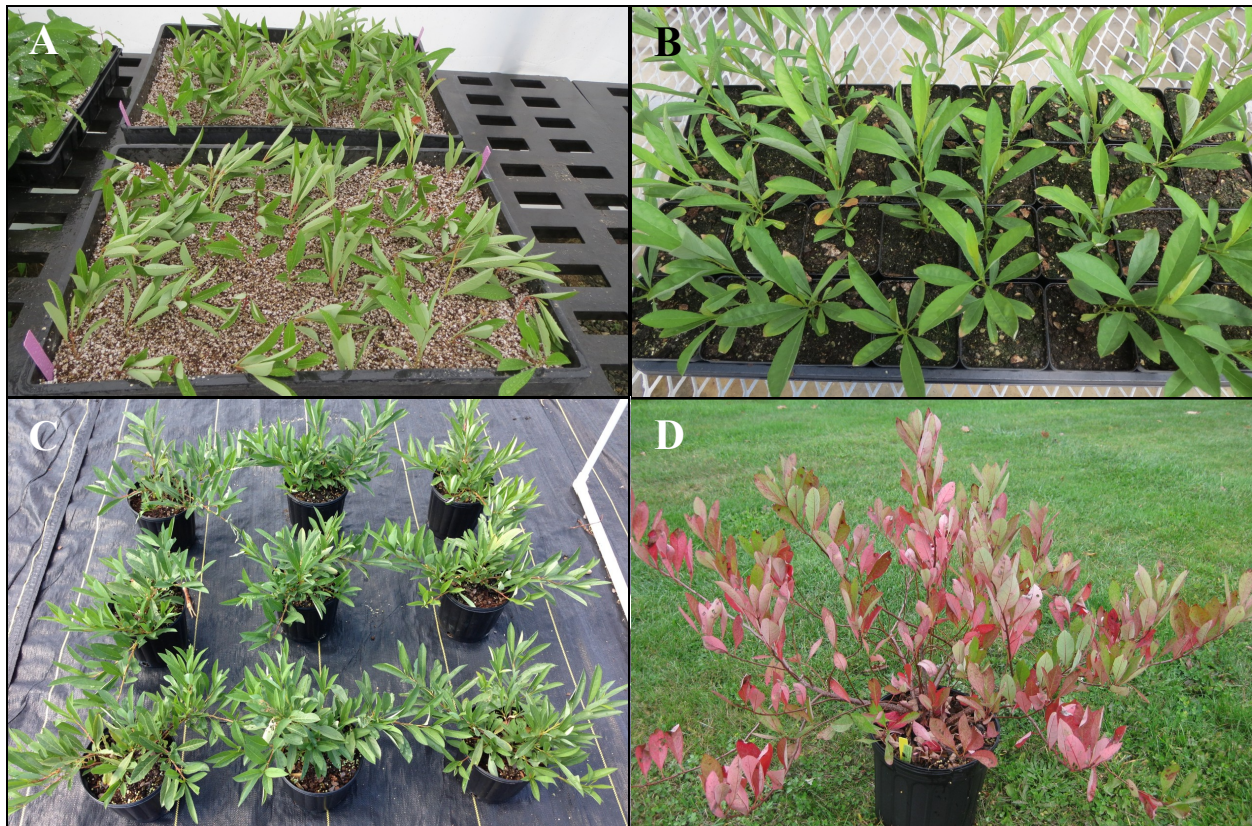
Creeping sand cherry is widely adaptable to full sun sites and will tolerate dry conditions as well as seasonal flooding. Therefore, it is an excellent groundcover for difficult sites with full sun. Use at the front edge of the shrub border or foundation planting for a gradual transition to taller specimens. Plants can be used in the mixed bed with perennials. It looks very at home in rock gardens where it will flow over and around rocks and boulders, producing a wonderful effect. Plant above retaining walls and allow shoots to cascade over the wall edge. Creeping sand cherry is useful for sunny slopes and stabilizing banks and is a suitable alternative for *Rhus aromatica* 'Gro-low' and some of the prostrate cotoneasters.

### Propagation and culture

Propagation of creeping sand cherry by seed requires three months cold stratification but is otherwise easy. Creeping sand cherry is also

relatively easy to multiply using softwood stem cuttings. I have routinely achieved greater than 90% rooting success with stems cuttings taken in June and treated with 3000 ppm IBA-talc rooting hormone. Stuck cuttings root in approximately 3 to 4 weeks and may be potted up and fertilized to facilitate plant development. Plants grow quickly in containers using an acidic bark:peat:sand media mix and controlled release fertilizer. Spring planted 1 or 2-gallon plants become established after one growing season. Established plants are low maintenance and require only occasional removal of old or damaged shoots. Plants may be trimmed to control spread. Mulch should be spread around plants since density of foliage may not prevent all weed growth. Due to its low stature, untrained landscape maintenance crews may accidentally mow over the top of a planting if it is not defined by mulch. Under situations of heavy deer pressure, creeping sand cherry may be browsed.

A-C) Cuttings to liners to one gallon pots in one year. D) Fall color is a pleasing orange-red blend.





***Rosa virginiana***  
**Virginia rose**

**Natural History**

There are three somewhat similar looking shrub roses native to the East Coast (Carolina rose, swamp rose and Virginia rose), but Virginia rose is the most commonly found species in New England. Its full range extends from Newfoundland south to Virginia and west to Missouri. Virginia rose tolerates a range of soil types and moisture conditions, and is found in a variety of natural habitats generally in loca-



**In the wild: Lake side; ocean side; wood's edge.**

tions with considerable sun exposure. Wild plants are found growing nearby swamps, lakes and streams, on coastal dunes, in woodland gaps and along the margins of woods and roadsides. Plants are drought tolerant and can be found growing in rocky or sandy soils. The fruits (or rose-hips) are high in vitamin C and an important winter food source for mocking

birds, pheasants, grouse and others birds and small mammals. Hips can also be used for making tea and preserves. Leaves and stems are also a food source for many mammals in the wild.

**Ornamental Traits**

Virginia rose is a low growing (2 to 4 ft. tall)

**Glossy green summer foliage (left). Wine red fall foliage and orange red hips.**







**Pink flowers give way to orange-red hips.**

deciduous shrub with upright shoots and a dense, rounded habit. Leaves are alternate and compound, consisting of five to nine finely toothed leaflets. Virginia rose produces infrastipular (at the base of the periole) thorns and bristles along the length of its stems. Glossy dark green summer leaves turn orange-red in the fall. The fragrant, five-petaled, pink flowers are two to three inches in diameter and may be solitary or in small groups of two or three blossoms. Maximum flowering occurs in early summer and then plants will bloom sporadically with a few flowers at a time into late summer. Numerous, large ( $\frac{1}{2}$  to 1 in. diameter) hips are produced making for a showy display. The round fruits start out green, turn lemon yellow in August, and then red-orange in fall, and persist through winter.

**Landscape Uses and Culture**

Virginia rose grows best in sites with full sun exposure. It may be used in masses or in the shrub or mixed perennial border. Plants may be pruned to shape and trained into a low informal hedge. Since flowers are born on the old shoots, prune soon after maximum flowering (not in late winter as is done for tea roses). Due to its drought tolerance and colonizing habit, Virginia rose may be used to stabilize sunny slopes. It can also be used at the edge of water or near low-lying, seasonally damp ar

reas. Once established, Virginia rose will spread by rhizomes to fill in an area, but it can be easily contained by selective removal of stray suckers. In the managed landscape, plants will benefit from a hard pruning every few years to remove old shoots and maintain a dense habit. Plants may be browsed by deer in the landscape, but light to moderate browsing may not be that noticeable, because of the plants dense habit and ability to regenerate quickly. Unlike most common garden roses, the native shrub roses are much less susceptible to disease and insect problems. Virginia rose plants in our parking lot landscape evaluation trials have never developed powdery mildew during the three year trial. Occasionally, small black spots appear on the leaves late in the season but it does not detract significantly from the visual quality of the plants at that time of year.

**Propagation**

Propagation by seed requires maceration of the fruits to remove the seed and then cold moist stratification for three to four months. Some references suggest a possible need for seed scarification as well. While there is little information available on cutting propagation specific for Virginia rose, it has been suggested that semi-hardwood cuttings treated with 8000 ppm IBA root readily. Rhizome division may be used to generate a small number of new plants.



## *Viburnum acerifolium* Maple leaf viburnum

### Natural history

*Viburnum acerifolium* (maple leaf viburnum) is one of several northeastern U.S. shrubby viburnums belonging to the Caprifoliaceae family. Its contiguous native range extends from Maine south along the Appalachian Mountains to northern Georgia and west to Michigan. Small populations are found in isolated sections at the northern extent of the native range in New Brunswick, and at the southern extent from Florida to Louisiana. In the wild, plants are found colonizing dry wooded slopes and the margins of woods. Plants grow in dry, rocky or sandy soils and tolerate considerable shade. Maple leaf viburnum is a larval host and nectar source for butterflies and moths, and its fall fruits are food for birds and mammals. Fruit consumption by humans is not recommended, however Native Americans used parts of the plant to make an infusion for relieving stomach pain.



### Ornamental traits

Maple leaf viburnum is a small, deciduous shrub (3 to 6 ft. tall) with an open, upright spreading habit. As its common name suggests, leaves resemble maple leaves, and most closely red maple, because they have three-



Above: *Viburnum acerifolium* foliage, flower, fall color and fruit.

Left: Growing wild in Willington, CT.

lobes. Leaves are opposite, 3 to 5 in. long and wide, and dark green in summer. They produce an outstanding display in fall, turning a unique and difficult to describe raspberry pink. The undersides of leaves are pubescent and are uniquely marked with small black dots. Small white flowers in 2 to 3 in. wide clusters pop into bloom in June and are held at the ends of shoots, generally facing upward. Oval shaped fruits begin to ripen red and transition to purple black as they fully ripen. Clusters of black fruits stand up nicely against the rose pink fall foliage backdrop.





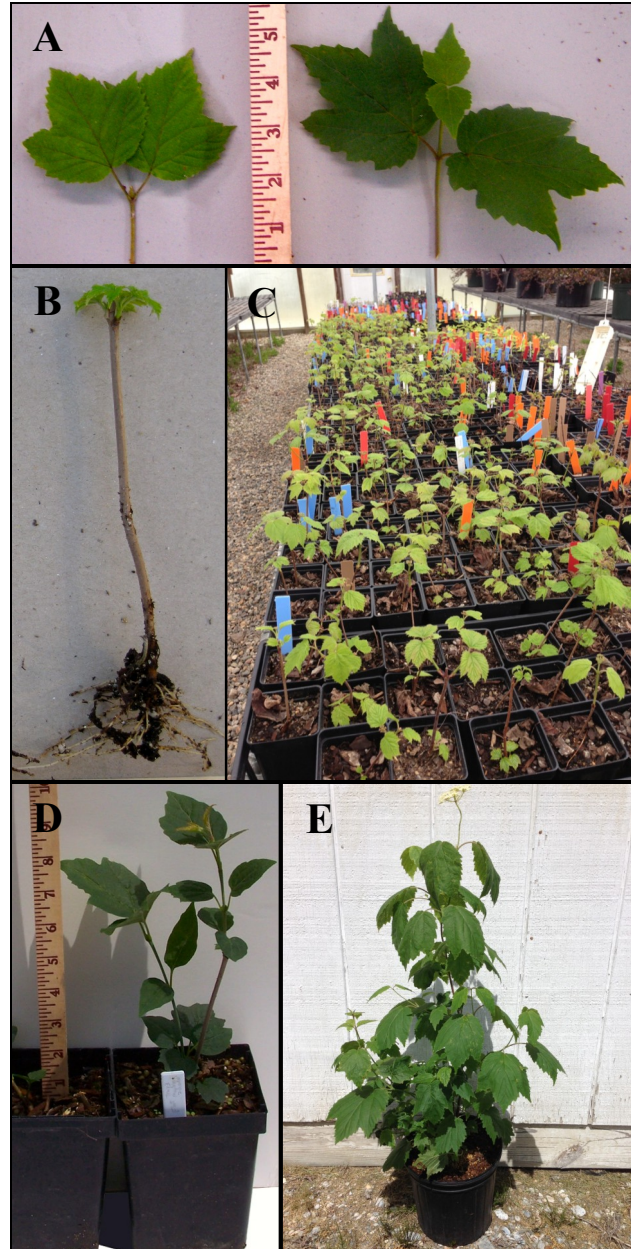
*Viburnum acerifolium*: A-B) Pink buds open to white flowers. C-D) Red fruits ripen purple-black.

**Landscape uses**

Maple leaf viburnum is an excellent performer in dry, shady locations and should be used in mass plantings and for naturalizing at the margins of woods. This plant tends to sucker and colonize and therefore, it requires a more informal garden area, and cannot be expected to maintain a fixed position in the shrub border, for example. Plants require only occasional removal of old or damaged shoots, but are essentially maintenance free. Established colonies may be pruned to the ground if one wishes to rejuvenate plants completely.

**Propagation**

Seed propagation is difficult because embryos exhibit complex dormancy requiring alternating warm and cold stratifications to get seeds to germinate. Some growers have reported difficulty propagating maple leaf viburnum from cuttings, however I have found that nearly 100% rooting can be achieved with cuttings containing two nodes taken mid-June through mid-August. Using single node cuttings (with flower removed) treated with 1000 ppm IBA-talc rooting hormone, the plant can be propagated at rates of 65-80%. Overwintering survival is better if rooted cuttings are left in propagation containers for a period of cold dormancy before transplanting. Plants grow well in containers using an acidic bark:peat:sand media mix and controlled release fertilizer. Transplanting from containers into the landscape may be done in spring or fall. Maple leaf viburnum can be damaged by viburnum leaf beetle, but it is not as preferred by the insect as arrowwood viburnum.



A) Single and two-node cuttings. B) Rooted two-node cutting. C) Liners. D) Quart sized plant. E) Two-gallon plant.



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