Thermopsis chinensis

This is a species — native to a few locations in central and eastern China — that has been mistakenly confused with *T. lanceolata*, a stoloniferous species with a much wider distribution across China, Russia, and Kazakhstan. The very attractive thick grayish-purple flower buds of *T. chinensis* emerge in mid-March coinciding with the blooms of galanthus, species crocus, and hamamelis cultivars. The emerging buds may still only be 6 inches high a week later and will slowly unfurl coinciding with blooms of hellebores, epimediums, *Primula kisoana, Cardamine* (*Dentaria*) *diphylla*, *Iberis sempervirens,* and *Veronica pedicularis* 'Georgia Blue'. The lovely, frost-resistant soft-yellow flowers will be fully open a week or two before redbuds and dogwoods. *Thermopsis chinensis* grows to 50 cm and has small obovate leaves 2.5 cm long, 0.6–1 cm wide and has erect, linear seedpods.

Softwood Cutting Propagation of Native Lauraceae (*Lindera benzoin* and *Sassafras albidum*) as Alternatives to Invasive Horticulture Plants©

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INTRODUCTION

The topic of invasive plants is hotly debated in horticulture. Plant nurseries and horticultural institutions are often identified as sources for a high percentage of invasive plants. Enormous pressure is put on nurseries to discontinue sales of certain high-profile invasive plants, many of which represent large portions of plant sales. In some New England states legislation prohibiting sales of certain invasive plants has been enacted**;** in others, voluntary action is encouraged. In either case, the potential economic loss to the industry is great. Therefore, the production of non-invasive alternatives to invasive plants is a priority. While native plants are not the only alternatives, they do offer other associated benefits, such as attracting native wildlife. In addition, native plants are becoming more popular with consumers and represent a growing niche market. Native plants have been so far relatively unexplored by the industry; exploring their horticultural possibilities offers many opportunities to bring new plants to the market. Two native plants in the Lauraceae family have potential as native alternatives. *Lindera benzoin* (L.) Bl.*,* spicebush, has been suggested as an alternative to *Euonymus alatus* (winged euonymus or burning bush). While *Sassafras albidum* (Nutt.) Nees., sassafras, has not been suggested as an alternative, it has potential to replace invasive trees such as *Acer platanoides* (Norway maple). Both *L. benzoin* and *S. albidum* are produced by the industry, but only by seed propagation. Vegetative propagation, such as softwood cuttings, would allow for cultivar production of these plants, increasing their economic value. Cutting propagation of both plants has shown to be possible, but not worth the effort due to very low rooting percentage. Our goal is to improve the vegetative propagation of these species, to promote more cultivar production, and increase their economic value to the nursery industry.

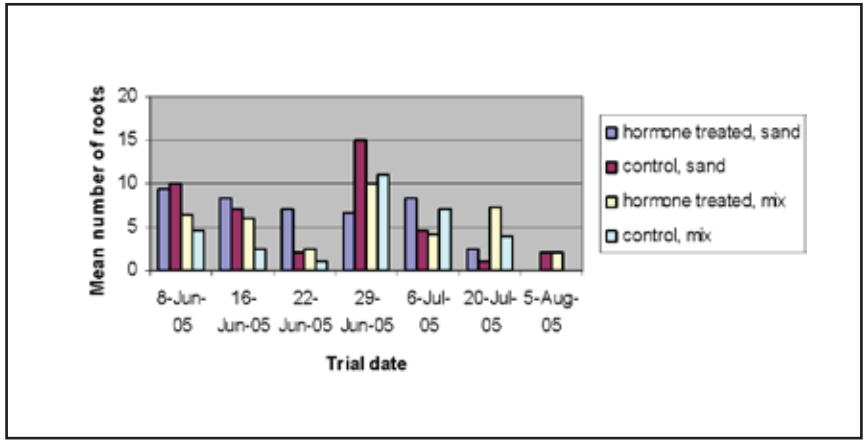

Figure 1. Mean number of roots per rooted cutting of *Lindera benzoin* softwood cutting, Summer 2005.

Table 1. Rooting percentage, all cuttings.

	Lindera benzoin				*Sassafras albidum*			
	MIX		SAND		MIX		SAND	
Trial Date	hormone	control	hormone	control	hormone	control	hormone	control
8-Jun-05	100	100	100	100	0	0	0	50
16-Jun-05	86	100	100	100	43	100	71	50
22-Jun-05	86	50	71	50	0	50	0	0
29-Jun-05	100	100	86	100	0	0	0	0
6-Jul-05	100	100	100	100	14	0	0	0
20-Jul-05	86	50	71	50	0	0	0	0
5-Aug-05	43	0	0	50	0	0	0	0

MATERIALS AND METHODS

Seven softwood cutting trials were done between 8 June 2005 and 5 Aug. 2005. In each trial, 18 stem cuttings of each species (*L. benzoin* and *S. albidum*), 8 to 13 cm in length, were collected from mature plants in natural areas around The University of Rhode Island Agricultural Experiment Station. Fourteen cuttings were treated with Hormodin #2 (0.3% IBA). The remaining four cuttings received no hormone treatment (control). Cuttings were stuck individually in Anderson bands (Anderson Die & Manufacturing, Portland, Oregon) filled with either sand or a 4 perlite : 1 peat (v/v) mix. Cuttings were placed outside in a shade house (50% shade) under mist (20 sec every 10 min from 0700 to 1900 h) with overhead irrigation (30 min every day) in Kingston, Rhode Island (41°29´N, 71°31´W). All trials were harvested between 19 Sept 2005 and 23 Sept 2005. Rooting percentage, root number, and root length were measured. Note: Hardwood cuttings were collected in Spring

2005 and treated as described above, but no rooted cuttings were produced. Root cutting propagation was also done (Winter 2004-2005), but results were poor.

RESULTS AND DISCUSSION

Cuttings of *S. albidum* rooted sporadically (Table 1). Those taken on 16 June rooted the best, suggesting a seasonal factor. Of these cuttings, mean root number per rooted cutting was higher for cuttings in sand and was unaffected by hormone treatment (data not shown). Cuttings of *L. benzoin* rooted more easily. Rooting percentage for hormone-treated *L. benzoin* cuttings ranged from 71 to 100, with the exception of cuttings taken on 5 Aug. 2005, which had not rooted, by mid September (Table 1). August may be too late in the season to successfully root *L. benzoin* cuttings. In general, hormone treatment had little effect on rooting percentage, but increased root numbers (Fig. 1). In general, cuttings of *L. benzoin* rooted in sand had more roots per rooted cutting than those rooted in peat-perlite. The vegetative propagation of *L. benzoin* is easy enough to permit selection of superior cultivars.

Propagation of Woody Plants Through "Long" Cuttings©

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OBJECTIVE

Development of a quick method for vegetative propagation with a higher rate of rooting than the present methods.

PROBLEM

To ensure uniformity, many street trees in the Netherlands are vegetatively propagated. However, success rates of the methods in use depend on the species being propagated, and several problems may occur such as:

- Difficulty in propagating certain species through rooting of cuttings.
- Slow regrowth of rooted cuttings.
- Occurrence of delayed incompatibility in certain combinations of rootstock and scion after propagation by chip budding or grafting.

Especially for research on *Acer platanoides* (propagation of *Verticillium*-resistant rootstock selections) and for *Quercus frainetto* (to overcome rootstock-scion incompatibility) we needed a reliable method to root cuttings. Common methods do not work well for these two species, so a method using long leafy cuttings ("Spethmann method") was tested.

APPROACH

- Greenhouse compartment with high humidity (95%–100%) atmosphere (PlantFog system) (Fig. 1).
- Several series of rooting rose (*Rosa*) cuttings of 60–80 cm length (2002–2003).