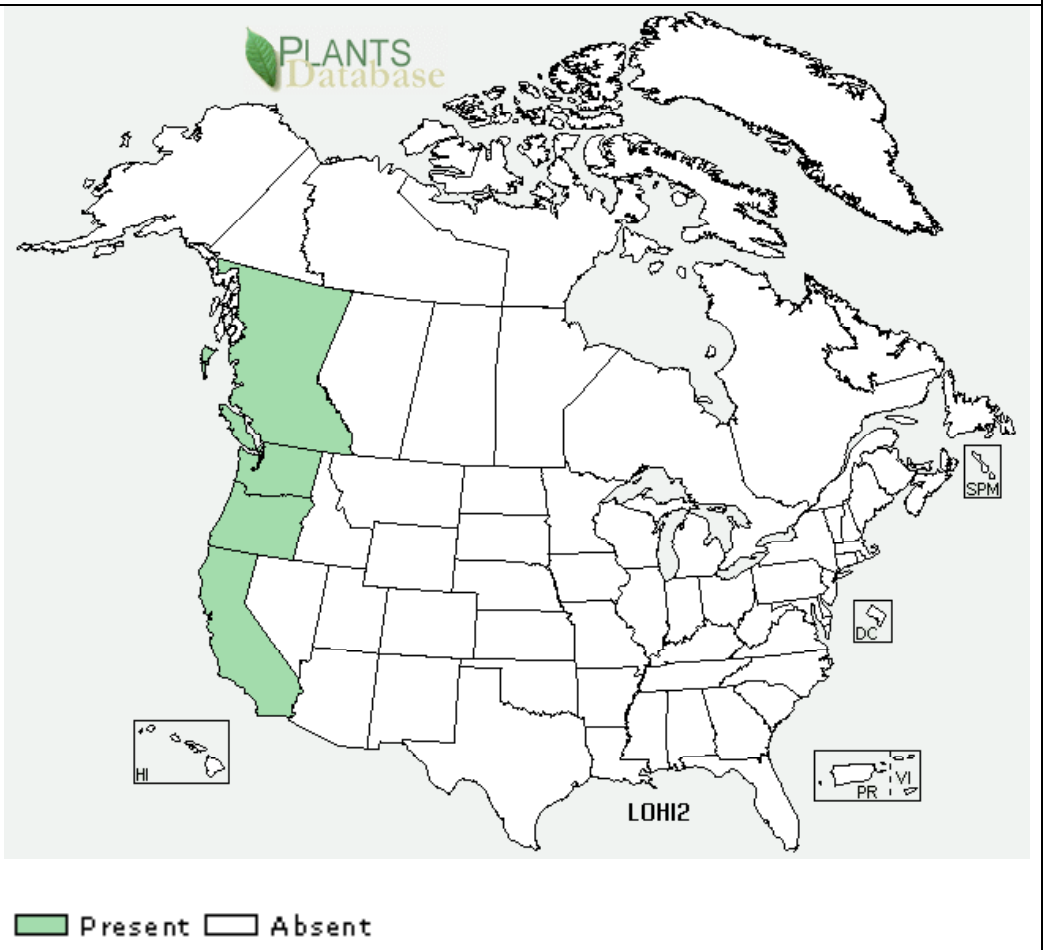
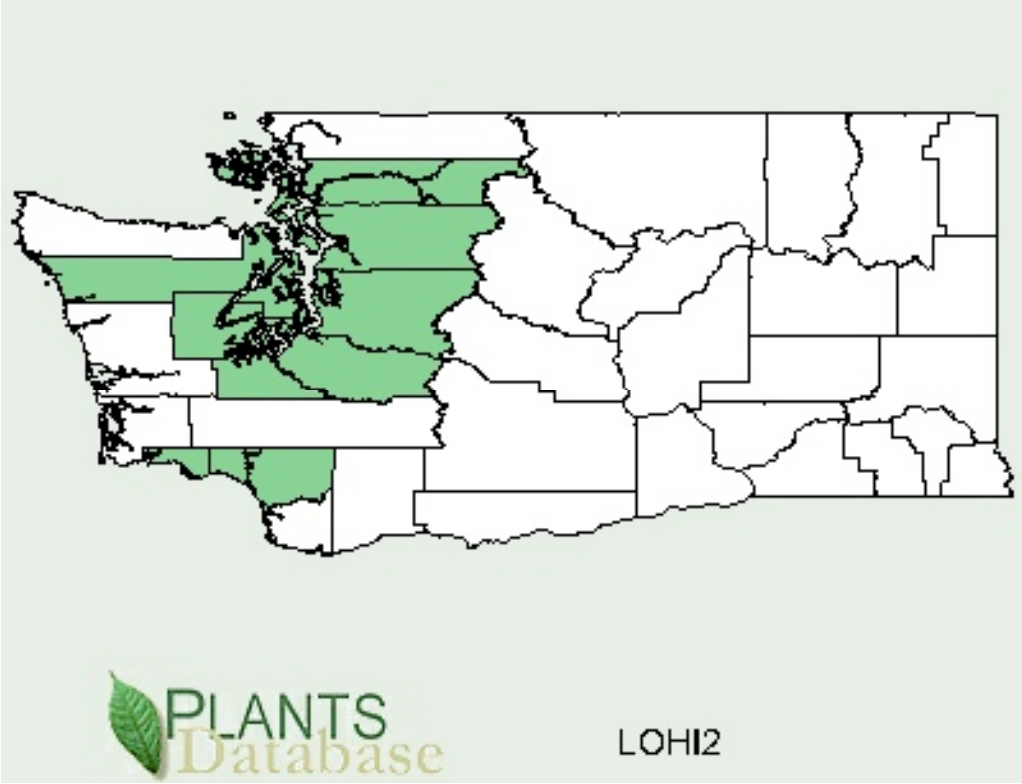
Plant Propagation Protocol for *Lonicera hispidula*
ESRM 412 – Native Plant Production
Spring 2008

(CalPhotots)

TAXONOMY (USDA PLANTS)	
Family Names	
Family Scientific Name:	Caprifoliaceae
Family Common Name:	Honeysuckle Family
Scientific Names	
Genus:	*Lonicera*
Species:	*hispidula*
Species Authority:	(Lindl.) Douglas ex Torr. & A. Gray
Variety:	
Sub-species:	
Cultivar:	
Authority for Variety/Sub-species:	
Common Synonym(s):	*Lonicera hispidula* (Lindl.) Douglas ex Torr & A. Gray var. *hispidula*, Lonicera *hispidula* (Lindl.) Douglas ex Torr. & A. Gray var. *vacillans* A. Gray.
Common Name(s):	Pink Honeysuckle
Species Code:	LOHI2

GENERAL INFORMATION	
Geographical range:	

	 (USDA PLANTS) Located west of the Cascades, in British Columbia to Oregon (Burke Museum).
Ecological distribution:	Open Woods (Burke Museum).
Climate and elevation range	Low elevations (Burke Museum), in California and Oregon is 1,500 to 3,500 feet (450-1,070 m) (Anderson 2007). Cool mesothermal (Atlas Page).
Local habitat and abundance; may include commonly associated species	Mixed Evergreen Forest, Redwood Forest, Douglas-Fir Forest, Foothill Woodland (Calflora). Submontane to montane species. It grows in maritime to submaritime, summer-dry climates. It is found on south or west aspects with gentle to moderate slopes. It is characteristic of moisture-deficient sites and occurs sporadically on "water-shedding" sites. Soils are generally very dry to moderately dry and often acidic (pH 4.0-6.5). It is typical of California riparian areas, though more commonly found in coastal riparian areas than in Central Valley riparian areas. It has been described as a wetland plant (Anderson 2007).
Plant strategy type / successional stage:	Likely top-killed by fire and may sprout after fire (Anderson 2007).
Plant characteristics:	A climbing deciduous shrub with large pink flowers (Lonicera hispidula).
PROPAGATION DETAILS (Young 2001 Container)	
Ecotype:	Marin County, California
Propagation Goal:	Plants
Propagation Method:	Seed
Product Type:	Container (Plug)
Stock Type:	Deepot 40

Time to Grow:	NA
Target Specifications:	Root system: Firm plug in container.
Propagule Collection:	Seeds are collected between July 1st and October 1st. Mature fruits are shiny red berries. Seed is hard at maturity.
Propagule Processing/Propagule Characteristics:	Seed Cleaning:Mash berries through a sieve, then wash seeeds until the pulp is removed. Strain seeds and dry.
Pre-Planting Propagule Treatments:	Soak seeds for 24 hours in fresh water. Cold stratify in peat or perlite for 1 to 3 months.
Growing Area Preparation / Annual Practices for Perennial Crops:	Fully Controlled Greenhouse.Sowing Method: Transplanting Germinants. 6 grams of seeds are sown per flat containing Sunshine Mix #4 Aggregate Plus (peat moss, perlite, major and minor nutrients, gypsum, and dolomitic lime). Seeds are covered with media. Flats are watered in with an automatic mist and irrigation system. Seeds are sown on August 1st. % Germination: 50%
Establishment Phase (from seeding to germination):	Seeds germinate 14 days after sowing. Seedlings are transplanted 14 days after germination to individual containers 2"x8" tubes (Deepot 40) containing standard potting mix of peat moss, fir bark, perlite, and sand. Transplant Survival averages 90%.
Length of Establishment Phase:	28 days.
Active Growth Phase:	Seedlings grow rapidly after establishment. Fertilize with Nutricote NPK (13-13-13) 1 month after transplanting. Prune back 2 months after transplanting and as needed afterwards always leaving at least 4 nodes.
Length of Active Growth Phase:	NA
Hardening Phase:	NA
Length of Hardening Phase:	NA
Harvesting, Storage and Shipping:	NA
Length of Storage:	NA
Guidelines for Outplanting / Performance on Typical Sites:	NA
Other Comments:	
PROPAGATION DETAILS (Young, 2001 Vegetative)	
Ecotype:	Presidio, California.
Propagation Goal:	Plants
Propagation Method:	Vegetative
Product Type:	Container (Plug)
Stock Type:	4 inch pot.

Time to Grow:	NA
Target Specifications:	Root System: Firm plug in container.
Propagule Collection:	Cutting length is 10 cm (4 inches).
Propagule Processing/Propagule Characteristics:	Cuttings are kept moist and cool prior to treatment.
Pre-Planting Propagule Treatments:	Cuttings are struck in flats containing 1:1 Perlite/Vermiculite. 200 Cuttings are struck 0.25 inch deep per flat. % Rooting: N/A
Growing Area Preparation / Annual Practices for Perennial Crops:	Fully Controlled Greenhouse. Flats are kept in the greenhouse and watered with an automatic mist system and on a heated bench until roots are fully developed.
Establishment Phase:	Planting Method: Transplanting Cuttings. Cuttings are transplanted to individual containers (4 inch pots) containing standard potting mix of peat moss, fir bark, perlite, and sand. Cuttings are placed in the shadehouse. Transplant Survival averages 50%.
Length of Establishment Phase:	NA
Active Growth Phase:	NA
Length of Active Growth Phase:	NA
Hardening Phase:	NA
Length of Hardening Phase:	NA
Harvesting, Storage and Shipping:	NA
Length of Storage:	NA
Guidelines for Outplanting / Performance on Typical Sites:	NA
Other Comments:	
PROPAGATION DETAILS (Herrera 2006)	
Ecotype:	Catalina Island, California
Propagation Goal:	Plants
Propagation Method:	Seed
Product Type:	Container (plug)
Stock Type:	#1 Treepot (173 cubic inches).
Time to Grow:	9 months

Target Specifications:	Firm root plug in container.
Propagule Collection:	Fruits are hand collected when they are fully matured. We have collected fruits in September and October. Seeds are brown at maturity.
Propagule Processing/Propagule Characteristics:	Fruits dry in paper bags in a warm, dry room. Clean the seeds by running fruits through a modified blender briefly to remove pulp from the seeds. Allow seeds to dry on wooden screens and use a seed blower set at 30 to remove chaff. Fruits can also be rubbed through a large screen with water to remove pulp, then screened pulp through a US Standard test sieves (#10 and #18). Seeds dry for several weeks following cleaning. After seeds have been cleaned, they are stored under refrigeration in air tight glass containers at 40 F and 40% RH. With 6 collections, seeds average 0.93 grams per 100 seeds.
Pre-Planting Propagule Treatments:	Use a Physan fungicide soak or a 3 minute 5% bleach solution to surface sterilize seed coats prior to testing or sowing. Germination percentage: 100%
Growing Area Preparation / Annual Practices for Perennial Crops:	The James H. Ackerman Native Plant Nursery is located on Catalina Island off the coast of southern California. From 1993 to 2004, the average maximum and minimum temperatures have been 75.4 F and 46 F, with an average of 361 frost free days per year and annual rainfall of 14 inches. The facility is comprised of shade houses, mist propagation house, and an outdoor growing compound. All propagation environments are utilized at different stages of seedling growth to provide for the variance in temperature and shading requirements needed during the growing season. Irrigate all containers with an overhead emitter system in the shadehouses and use a drip system or hand water in the outdoor nursery.
Establishment Phase:	Seeds are germinated during winter and early spring months in a shadehouse were they remain for several weeks. Flats and containers are filled with a 1 inch layer of special seed germination mix of 1:1 (v:v) Sunshine Professional Growing Mix and sand on top of 4:1:1 (v:v:v) peat, perlite, and organic compost. Incorporate Osmocote time release fertilizer (9 month release rate (14N:14P205:14K20) at the rate of 1/2 cup per 0.75 cubic yard of medium. Seeded flats are watered with an overhead emitter system as needed.
Length of Establishment Phase:	2 months.
Active Growth Phase:	After seedlings are well established and have at least 2 true leaves, they are transplanted into containers filled with a growing medium of 4:1:1 (v:v:v) peat, perlite, and organic compost. Osmocote time release fertilizer (9 mo release rate) (14N:14P205:14 K20) is incorporated into the medium at a rate of ? cup per .75 cubic yards of medium. Seedlings are ready for transplanting into 2 inch containers 8 to 10 weeks after germination. Following transplanting, seedlings are moved to another shadehouse with more temperature variance

	where they remain for several weeks. We shift 2 inch container plants once they are root tight to #1 treepots (173 cubic inches) after 9 weeks (end of May). We top prune as needed to encourage branching.
Length of Active Growth Phase:	6 months.
Hardening Phase:	Any nursery stock grown under shadehouse conditions are hardened by placing them in full sun exposure for a minimum of 2 weeks prior to outplanting.
Length of Hardening Phase:	2 to 4 weeks
Harvesting, Storage and Shipping:	Containerized seedlings are over wintered directly in the open growing compound.
Length of Storage:	Variable; depends on out planting date.
Guidelines for Outplanting / Performance on Typical Sites:	Ideal outplanting season runs from November to mid-March when moisture is available. We water nursery stock once after planting.
Other Comments:	Foliar host for the pathogen sudden oak death mold (Phytophthora ramorum) which causes "sudden oak death", a deadly canker disease of tanoak (Lithocarpus densiflorus), coast live oak (Quercus agrifolia), California black oak (Q. kelloggii), and interior live oak (Q. wislizenii) in California and Oregon (Anderson 2007).

INFORMATION SOURCES

References (full citations):

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Other Sources Consulted:	
Protocol Author:	Kim Jones
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