

**Propagation Protocol**  
***Pinus contorta***

## Taxonomy

### Family Names

Family Scientific Names	Pinaceae
Family Common Names	Pine Family

### Scientific Names

Genus	Pinus
Species	Pinus contorta
Species Authority	Douglas Louden
Variety	Pinus contorta var. contorta
Other Varieties	Pinus contorta var. latifolia Pinus contorta var. murrayana
Common Names	Lodgepole Pine Shore Pine Beach Pine
Species Code	PICO

## General Information

### General Distribution

Geographical Range	Western North America Pacific Coast Interior British Columbia
States	Washington Oregon
Ecosystems	Coastal Bogs Sand Dunes Rocky Outcrops
Climate and Elevation	Sea Level to 610 meters. Maritime climate with average range of 7°C-27°C
Associated Species	Redwoods, Sitka spruce, Northern riceroot
Physical Description	Needles fascicled in groups of two, small contorted cones with hooks. Pinewood ignites at 1800°C.

## Propagation

### Details

Goal	Trees
Method	Seeds
Collection	<p><b>Cone Collection-</b> September to October. Ripe cones will be yellow-brown. (4)</p> <p><b>Cone Processing-</b> dry immediately after collection to avoid mold development by spreading them out in a thin layer on a dry surface in the sun. After cones have opened shake, tumble to remove seeds. Each cone contains 2-50 seeds. (4)</p> <p><b>Separate viable seeds-</b> place in liquid, empty seeds will float. Dry to a moisture content between 5-10%. (4)</p>
Seed Storage	Hold in sealed container between -15 to 0°C. Can be viable for long periods of time, up to 17 years.
Pre-Planting Treatments	<p>No dormancy conditions, may be planted with out treatment</p> <p>*If seeds have been stored they will need a <b>cold stratification</b></p> <p>-soak in water for 1-2 days and place in a moist medium or in a plastic bag at 30-41°F. May take up to 60 days. (3)</p>
Stock Type	Container
Soil/Medium	Needs to have good aeration and be able to hold adequate moisture
Planting Density	320 seeds / m <sup>2</sup>
Seedling Care	First year, susceptible to drought. Water every week and keep weeds out.

### Details

Goal	Trees
Method	Cuttings
Collection	<p><b>Cutting Collection-</b> December or early January</p> <p><b>Stock Plant-</b> the younger the stock plant the greater the rooting response of the cuttings. Less then 2 years old. (2)</p> <p><b>Cuttings-</b> needle fascicles</p>

Pre-Rooting Treatments	Chemical treatments of 20 hour soak of 100 ppm IBA, and a 5 sec. Dip of 1,000 ppm IBA. (2)
Stock Type	Container
Soil/Medium	Works best in medium aggregate perlite.
Seedling Care	Control environment

## Information Sources

1. Hartman, Hudson T., Dale E Kester, Fred T. Davies, and Robert L. Geneve. PLANT PROPAGATION: PRICIPALS AND PRACTICES. 7<sup>th</sup> edition. Englewood Cliffs, NJ: Prentice Hall, 2001
2. Larsen, Fenton E., and Richard W. Dingle. "Vegetative Propagation of Lodgepole Pine From Needle Fascicles." 15 (1969): 64-65.
3. Macdonald, Bruce. PRACTICAL WOODY PLANT PROPAGATION FOR NURSERY GROWERS. Portland, OR: Timber Press, 1986.
4. Young, C. and Young, J. 1986. COLLECTION, PROCESSING AND GERMINATING: SEEDS OF WILDLAND PLANTS. Portland, OR: Timber Press, 1986
5. Young, C. And Young, J. 1992. Seed of Woody Plants in North America.

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[http://depts.washington.edu/propplnt/Plants/plat\\_data\\_sheet\\_Pinus\\_contorta.htm](http://depts.washington.edu/propplnt/Plants/plat_data_sheet_Pinus_contorta.htm)