Horticulture Information Leaflet 603
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Department of Horticultural Science

USING PINES IN THE LANDSCAPE

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There are several selected pines species which are used in North Carolina landscapes, most being large tree forms. Pines are important to North Carolina not only for the ornamental value but also for lumber, watershed management, resin, turpentine and Christmas trees. There are over 100 species of the genus Pinus recognized worldwide, of which 36 are native to the United States.

Landscape Use - Landscape architects, contractors and homeowners rely on pines heavily for ornamental uses. Golf courses, parks, malls, industrial and residential sites use cultivars of pines for large and small landscape plantings. Pines offer a variety of forms, needle structures, color - from blue to dark green and in texture from fine to coarse. Many landscape effects can be created with numerous cultivars. Pines can be used for windbreaks, accent trees or even foundation plantings.

Culture - Many problems and difficulties associated with growing pines can be avoided by carefully preparing a proper planting site. In general, pine trees do best in well-drained, fertile soils, but a few species are adaptable to less favorable conditions. In preparing the site, the hole should be dug sufficiently deep and wide to accommodate the root system. Care should be taken to plant the tree at the proper plant depth. With the exception of seedlings, pines should be transplanted with plenty of soil around the roots. Large natural growing species are often difficult to transplant because of the deep tap root. Pruning pines is usually not necessary except to remove dead or broken branches or sheared to retain a Christmas tree effect.

Watering and Mulching - For the first several months after planting, watering may be necessary during dry periods to prevent water stress on new roots and shoots. Mulching around old and new pine trees is beneficial since it reduces water stress and weed population. Pine bark or pine needles are good mulching materials.

Fertilizing - As a general rule, slow release fertilizers, (such as Osmocote or Agriform tablets) should be used at time of planting. Care should be taken if other commercial fertilizers are used since roots of young trees are sensitive to over fertilizing. During the second and following years, 2 to 4 pounds of 10-10-10 can be applied to each 100 sq ft of bed area. For larger trees in open areas about 2 pounds of fertilizer can be applied for each inch in trunk diameter of the tree.

Partial List of Pine Species for North Carolina Landscapes

Austrian Pine (*Pinus nigra*). This pine is rapidly becoming an important plant in our landscape due to

its pyramidal form and dark green foliage. It is hardy as far north as southern Ontario and New England and grows well in sand, loam, or clay soils. As a functional tree, it makes an excellent wind break and also can withstand wind and heavy snow. Some have reported good tolerance to ice storms and salt injury. This plant has been noted to be susceptible to root rotting organism during the seedling stage. Two cultivars of Austrian pine that are available are '*Austriaca*' and '*Pyramidalis*'. Seeds of this species can be germinated without any pretreatment.

Red (*Pinus resinosa*). This tree is a fine specimen which should be used more in the landscape since it has the ability to withstand cold winters, mild summers and low rainfall. Culturally, red pine will thrive in either sandy or loamy soil under acidic conditions. Red pine has been noted by some to be sensitive to fire through its sapling stage, but is tolerant to salt spray. The general growth rate of this species is good with some attaining 75 feet. The shape of this tree forms a pyramidal head with stout spreading branches.

Slash Pine (*Pinus elliottii*). This tree is moderately tolerant to adverse (soil and environment) conditions. It does grow on sandy soil that contains a poorly drained hardpan or in some wet areas. The distribution of this plant is restricted to the lower south because of its susceptibility to ice storms and temperature limitations. Slash pine has been noted to be susceptible to damping-off during the seedling stage.

Japanese Black Pine (*Pinus thunbergii*). This is truly one of the best pines for use along seashores on the eastern coastline. It is extremley tolerant of salt spray conditions and can be grown on most any type of soil. The general growth habit of the plant is dense with pendulous branches.

Japanese Red Pine (*Pinus densiflora*). This species of pine is an excellent tree and one which needs to be planted more frequently. The specific name of this plant comes from the cones that are borne in dense clusters. Several interesting characteristics of this species include horizontal branching, and orange-red bark. The foliage of this tree also enhances its appearance by turning yellowish-green to pale green by winter. The yearly growth rate of the tree is moderate with older trees attaining a height of 75 feet. Several good cultivars include: 'Umbraculifera' and 'Oculus-draconis'.

Mugo Pine (*Pinus mugo*). This is an excellent rock garden or foundation plant because of its compact and low growing form. The plant usually does not attain a height more than 4 feet if true dwarf forms are planted. Culturally, mugo pines will grow in most soils but prefer soils with a pH of 5.5. Mugo pine may be propagated by seed or by stem cuttings, but some caution should be taken when propagated by seed as many will grow to larger sizes. Several good cultivars include: 'Compact', 'Pumilio' and 'Slavinii'.

White Pine (*Pinus strobus*). This is a fine needle species grown throughout the North-east, and extends down the Appalachian mountains as far as Georgia. In North Carolina it is generally not recommended for eastern North Carolina. This plant is fairly tolerant to adverse environmental conditions. It thrives in loamy acidic conditions, but will grow under less desirable situations. A mature tree attains a height of 100 feet and its growth rate compared to other pines is rapid (8 to 12 inches per year). White pine is susceptible to ice storm damage, sulfur dioxide, ozone, anmd salt sea spray. An important cultivar of white pine suitable for rock gardens is *P. strobus* 'Nana'. Overall, white pine is not only a good ornamental tree but also an excellent tree for Christmas.

Longleaf Pine (*Pinus palustris*). This matures at 100 years and grows well on sandy or clay soils but prefers higher and drier sites. This tree ranges from Eastern North Carolina through the Gulf states to Texas. This plant is not tolerant to lightning, high winds or drought.

Lacebark Pine (*Pinus bungeana*).The lace-bark pine is a small to medium sized tree. As the tree matures the smooth bark begins to flake away, creating a beautiful patchwork of numerous colors. This pine typically branches near the ground making it an excellent landscape specimen plant. This pine can be observed at the NCSU arboretum.

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