



Pinus mugo Mugo Pine¹

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INTRODUCTION

Mugo Pine is a shrub or small, round or broad pyramidal plant 4 to 10 feet tall which grows best in sun or partial shade in moist loam (Fig. 1). Needles of this two-needle Pine are held on the tree for more than four years making this one of the more dense Pines suitable for a screen planting. Most other Pines are not suited for screens since they lose their inner needles and lower branches as they grow older. Since there seems to be great variability in height among individual trees, select nursery plants which have the form which you desire. When selecting a Mugo Pine to grow into a tree, choose one with a central leader; if looking for a more dwarf type Mugo Pine choose among the many compact selections.

GENERAL INFORMATION

Scientific name: *Pinus mugo*

Pronunciation: PIE-nus MEW-go

Common name(s): Mugo Pine, Swiss Mountain Pine

Family: *Pinaceae*

USDA hardiness zones: 2 through 7 (Fig. 2)

Origin: not native to North America

Uses: Bonsai; container or above-ground planter; recommended for buffer strips around parking lots or for median strip plantings in the highway; screen; Christmas tree; no proven urban tolerance

Availability: generally available in many areas within its hardiness range

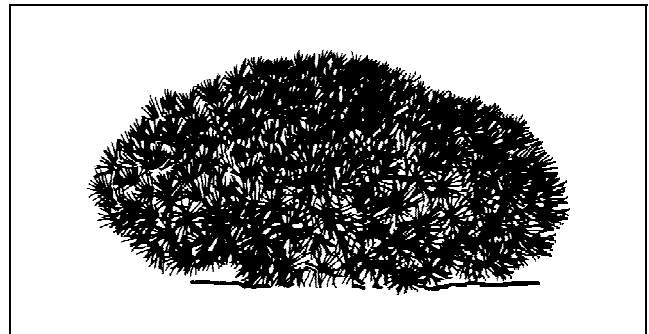


Figure 1. Middle-aged Mugo Pine.

DESCRIPTION

Height: 15 to 25 feet

Spread: 15 to 25 feet

Crown uniformity: symmetrical canopy with a regular (or smooth) outline, and individuals have more or less identical crown forms

Crown shape: round; pyramidal

Crown density: dense

Growth rate: slow

Texture: fine

Foliage

Leaf arrangement: alternate; spiral (Fig. 3)

Leaf type: simple

Leaf margin: entire

Leaf shape: needle-like (filiform)

Leaf venation: parallel

Leaf type and persistence: evergreen; fragrant; needle leaf evergreen

Leaf blade length: less than 2 inches

Leaf color: green

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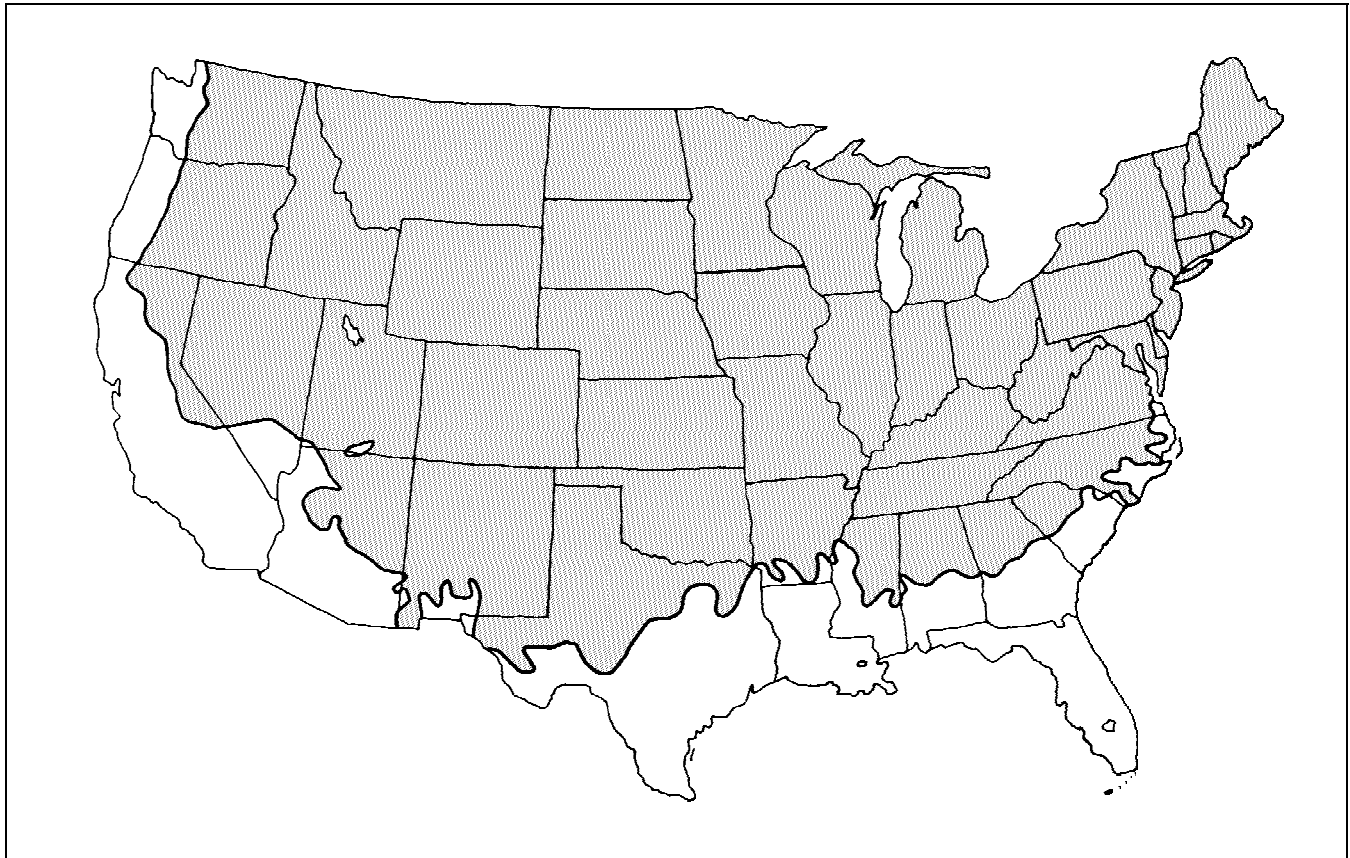


Figure 2. Shaded area represents potential planting range.

Fall color: no fall color change

Fall characteristic: not showy

Flower

Flower color: yellow

Flower characteristics: inconspicuous and not showy

Fruit

Fruit shape: oval

Fruit length: 1 to 3 inches

Fruit covering: dry or hard

Fruit color: brown

Fruit characteristics: does not attract wildlife; inconspicuous and not showy; fruit, twigs, or foliage cause significant litter; persistent on the tree

Trunk and Branches

Trunk/bark/branches: routinely grown with, or trainable to be grown with, multiple trunks; grow mostly upright and will not droop; not particularly showy; tree wants to grow with several trunks but can be trained to grow with a single trunk; no thorns

Pruning requirement: needs little pruning to develop a strong structure

Breakage: resistant

Current year twig color: brown; green

Current year twig thickness: medium

Culture

Light requirement: tree grows in part shade/part sun; tree grows in full sun

Soil tolerances: clay; loam; sand; acidic; alkaline; well-drained

Drought tolerance: moderate

Aerosol salt tolerance: high

Soil salt tolerance: good

Other

Roots: surface roots are usually not a problem

Winter interest: no special winter interest

Outstanding tree: not particularly outstanding

Invasive potential: little, if any, potential at this time

Verticillium wilt susceptibility: not known to be susceptible

Pest resistance: long-term health usually not affected by pests

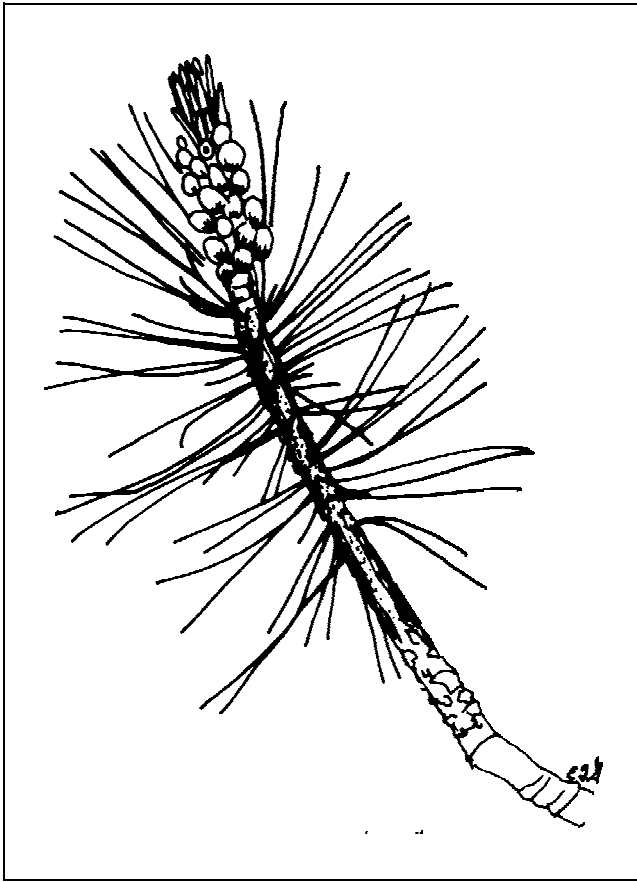


Figure 3. Foliage of Mugo Pine.

USE AND MANAGEMENT

Trees best recover from transplanting when moved balled and burlapped, not bare-root. It performs remarkably well on soils with a high pH and is fairly well adapted to urban sites. Plant size and density can be controlled by pinching the elongating candles just before or as the needles begin emerging but this is usually not needed on Mugo Pine since growth is very dense. Pines are deep rooted except on shallow, poorly-drained soil where there will be only shallow roots.

Several cultivars are available: 'Compacta' - rounded, three feet tall; 'Gnome' - about 12 feet tall; 'Hesse' - dwarf; var. mugo - 2 1/2 to six feet tall but very broad; var. pumilo - prostrate.

Propagation is by seed.

Pests

Mugo Pine is a favored host for Pine sawfly and Pine needle scale. Some adelgids will appear as white cottony growths on the bark. All types produce honeydew which may support sooty mold. European Pine shoot moth causes young shoots to fall over. Infested shoots may exude resin. The insects can be found in the shoots during May. Pesticides are only effective when caterpillars are moving from overwintering sites to new shoots. This occurs in mid to late April or when needle growth is about half developed.

Bark beetles bore into trunks making small holes scattered up and down the trunk. Stressed trees are more susceptible to attack. The holes look like shotholes. Keep trees healthy.

Sawfly larvae caterpillars are variously colored but generally feed in groups on the needles. Some sawfly larvae will flex or rear back in unison when disturbed. Sawflies can cause rapid defoliation of branches if left unchecked.

Pine needle miner larvae feed inside needles causing them to turn yellow and dry up.

Pine needle scale is a white, elongated scale found on the needles. Pine tortoise scale is brown and found on twigs. Depending on the scale, horticultural oil may control overwintering stages.

Pine spittle bug lives and hides in a foamy mass.

Spruce mites cause damage to older needles, and are usually active in the spring and fall. Mites cause older needles to become yellowed or stippled.

Zimmerman Pine moth larvae bore into the trunk. The only outward symptoms may be death of parts of the tree or masses of hardened pitch on the branches.

The larvae of Pine weevils feed on the sapwood of the leaders. The leader is killed and the shoots replacing it are distorted. First symptoms are pearl white drops of resin on the leaders. The leaders die when the shoot is girdled as adults emerge in August. Prune out and burn infested terminals before July 15.

Pine wilt nematode can kill trees.

Diseases

Diplodia tip blight is a common problem and Mugo Pine is very sensitive.

This pine is susceptible to rusts. Canker diseases may rarely cause dieback of landscape Pines. Keep trees healthy and prune out the infected branches.

Needle cast is common on small trees and plantation or forest trees. Infected needles yellow and fall off.