

Selecting Ornamental Trees for New Mexico

Guide H-328

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Trees provide many benefits to us and our environment. They cool our cities, cleanse the air, recycle oxygen and reduce noise levels. In addition, trees enhance our quality of life by providing habitat for desirable wildlife and creating a restful environment. However, with New Mexico's varied landscape, where less than one-third of the state covered with native forests, selecting trees that will thrive in this environment is challenging. Trees planted in our cities and around our homes grow under climatic and soil conditions that may not naturally support tree growth. Nevertheless, New Mexicans need trees that tolerate our soils and climate. The purpose of this publication is to provide a description of trees that are adapted to New Mexico. While, many of the trees recommended in this publication are not native to New Mexico, they will adapt and thrive with appropriate care.

SELECTING A TREE

An important consideration when selecting a tree should be the planned function of the tree in the landscape. This planned function will determine which tree is chosen and where it is planted. Trees may be chosen for their shade, flowers, seasonal leaf color, fruit (presence or absence), wildlife habitat, size and architectural form. Growth rate also is a consideration, but often not be the primary reason for selecting a tree. Trees that grow rapidly tend to have a short life and create hazards, because they often have weak wood and increased disease and insect problems. Trees should be considered a long-term investment as a well-placed, attractive part of the landscape that can substantially enhance the property value.

When choosing a tree for the landscape, consider the location in which the tree will be planted. Mature tree height and spread should be considered when selecting a site. Distance from structures, roads, walkways, walls and other paved areas are factors that must be considered. For example, if planted under power lines, trees eventually will interfere with power line maintenance and create electrical hazards. Poor site selection eventually could lead to structural damage, necessitating removal of the tree or pruning that could decrease the tree's form, function and value. Potential problems can be avoided by matching the tree to the site. If you desire a specific tree, be sure to find a site appropriate for that tree. If your concern is a specific site, select a tree appropriate for that site. Many tree problems in New Mexico result from a failure to match trees and sites.

An unseen potential problem is the root system of an actively growing tree. As a tree grows, the root system expands beyond the tree's drip line. (The drip line is the area of soil beneath the ends of the tree's branches.) Trees planted close to walkways or other pavement can cause of the pavement to lift up due to root growth creating a hazard to foot traffic. Roots also can clog sewer or septic lines, resulting in costly repairs. Most of the tree's roots are in the first 18 inches of soil. However, the roots can spread a distance 1.5 or more times the height of the tree from the trunk. Thus, a 40-foot tree can have roots exploring soil 60 feet or more beyond the trunk. As a general rule, most of the large roots, which cause structural damage, will be found under the dripline of the tree at maturity. Smaller, less destructive roots extend much further. However, as these roots absorb water and nutrients, they may cause problems with septic systems.

To adequately care for trees, homeowners must irrigate and fertilize well beyond the drip line. The homeowner should anticipate the future size of the tree (above and below ground) in the landscape.

Another way to avoid problems is to choose trees adapted to the soil and climate. Soil conditions to consider include depth, drainage, caliche layers, texture, pH and salinity. Problems resulting from these factors can often be avoided by knowing your soil conditions and selecting trees adapted to these conditions. Your county extension agent can help determine your soil conditions.

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Figure 1. Average number of frost-free days and average date of last frost in three growing zones. From *Climatological Data, Annual Summary-New Mexico, 1982,* National Weather Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Finally, consider selecting trees adapted to New Mexico's planting zones (Fig.1). These planting zone guidelines are based on climatic conditions under which the trees must grow. However, these guidelines do not consider microclimates due to changes in elevation over short distances and location relative to structures. Sites near the zone boundaries should expect harsh conditions more often than areas located farther from the zone boundaries. In New Mexico, extreme weather will sometimes damage or kill trees. However, planting within the zones indicated (Table 1) should minimize the risk of tree death due to climatic stress.

Some tree species may suffer winter injury from severe winter storms. Winter injury can vary from death of succulent tissue, to small branch dieback, to damage to the southwest side of the trunk, to death of the entire tree. However, this should not discourage experimentation in the landscape. A tree's unique beauty may be enjoyed for many years, even if it is eventually replaced. Additional information can be obtained from your County Extension agent or nursery professional.

The list of trees in Table 1 is not intended to be comprehensive. This list is intended to provide guidance in selecting trees, identifying their positive and negative characteristics, and offering suggestions on where these trees can be planted safely. Do not let this list discourage the use of other interesting tree species that may do well in the care of a conscientious homeowner.

Scientific Name	Common Name	Growing Zone	Height (feet)	Irrigation Frequency	Selecting and Planting Criteria	Potential Problems
Broadleaf Trees						
Acacia smallii	Sweet Acacia	1	20	I.		Т
Acer grandidentatum	Bigtooth Maple	2.3	35+	M-H	Fa	F. Y
Acer saccharinum	Silver Maple	2, 3	50+	M-H		F
Acer saccharum	Caddo Sugar Maple	2, 3	35+	М	Fa	F
Albizia julibrissin	Mimosa	1, 2	20+	М	Fl	D, I, F
Arbutus xalapensis (A. texana)	Texas Madrone	1, 2	20+	L-M	well-drained soils	
Betula spp.	Birch	2, 3	40+	Н		D, I
Carpinus betulus	European Hornbeam	3	60	Н		
Carya illinoinensis	Pecan	1, 2	60+	Μ	F	A, I, F
Catalpa bungei	Umbrella Catalpa	1, 2	20	Μ		D, S
Catalpa speciosa	Catalpa	1-3	80	М	Fl	D, I, F, W
Celtis occidentalis	Hackberry	1-3	60	M	F	D, I
Celtis reticulata	Western (netleaf) Hackberry	1, 2	30	M	F	l
Cercis canadensis	Eastern Redbud	1-3	30	M-H	FI	F
Cercis occidentalis	Western Redbud	1-3	15	M		
Chilopsis linearis	Chitalana	1, 2	25	M-L	F, FI El	F, W
A Childipa lasiikentensis Cotinus coggiggio	Smoketree	1-2	20	L-IVI M	ГI Fa	C, D
Collinus Coggygila Cratagous lagyigata	Hawthorn	1, 2	30	M	Га Fl	ПΤ
Cratagus Idevigaia Cratagus phanopyrum	Washington Hawthorn	1-3	30	M	Fa Fl	D, I T
Flaganus angustifalia	Russian Olivo	2 3	30 35+	M-I	F	
Forestiera neomexicana	New Mexico Olive	1-3	20	M	F	E, I, I, J, F I
Fraxinus greggii	Littleleaf Ash	1	20	M	1	I
Fraxinus oxycarna	Raywood Ash	1.2	35	M-H	Fa	A.I
Fraxinus pennsylvanica	Green Ash	1-3	60	M-H	Fa	A. I
Fraxinus velutina	Arizona Ash	1-3	40	М	Fa	Á, I
Fraxinus velutina 'Modesto'	Modesto Ash	1-3	40	М	Fa	A, I
Gingko biloba	Maidenhair Tree	2	40+	M-H	Fa	F
Gleditsia triacanthos var. inermis	Thornless Honey Locust	1-3	60+	Μ	Fa	D, F, I
Gymnocladus dioica	Kentucky Coffeetree	1-2	50	Μ		F
Juglans major	Arizona Walnut	1-3	50+	M-H	F	A, F
Juglans nigra	Black Walnut	1-3	80	М	bottomlands	
Juglans regia	English Walnut	1-3	60	M-H	F	
Koelreuteria paniculata	Golden Raintree	1, 2	35	М	Fl	F, I
Koelreuteria bipinnata	Chinese lantern	1, 2	30	М	FI	
Liquidambar styraciflua	Sweetgum Talia Danlar	2, 3	50+	M-H	Fa	F
Liriodendron tuiipitera Malua mu	Tulip Poplar	2 1 0	50+ 20	M-H		DEI
Malia azadarach	Tavas Umbralla Traa Chinabarry	1-5	30+		Г, ГІ Г Г	D, F, I W E
Distacia atlantica	Mt Atlas Distacho	1	35+	L-IVI M	г, гі	VV, 1 [.]
Pietachia chinaneis	Chinese Pistache	1 2	35+	M	Fa	
Platanus wrightii	Arizona Sycamore	1, 2	60	M-H	A	F
Platanus x acerfolia	London Plane Tree	2	50+	M-H	11	A.F
Platanus occidentalis	Sycamore	$\tilde{\tilde{2}}$	50+	M-H		A. F
Populus fremontii	Valley Cottonwood	1-3	80	M-H		A, W
Populus tremuloides	Quaking Aspen	2, 3	50	M-H	Fa	A, D, I, W
Prosopis glandulosa	Mesquite	1	20	L		F, T
Prunus cerasifera	PurpÎe Leaf Plum	1-3	30	M-H	F, Fl	F, I
Prunus virginiana	Choke Cherry	2, 3	20	Μ	F, Fl	F, Su
Ptelea trifoliata	Hoptree	1, 2	20	Μ		Su
Pyrus calleryana 'Bradford'	Callery Pear	1, 2	50	M-H	Fa, Fl	D
Quercus buckleyi	Texas Red Oak	1, 2	40+	М	F	A, F, I
Quercus emoryi	Emory Oak	1, 2	60	L-M	F	A, F, I
Quercus muehlenbergii	Chinquapin Oak	2, 3	60+	M-H	F	A, F, I
Quercus shumardii	Shumard Oak	1, 2	60	M-H	F	A, F, I
Quercus Iobata	California White Oak	1, Z	50+	M	ľ E E	A, F, I
	CorkDark Oak	1	25+	M	E, F	A, F, I A F I
Quercus gambelli	Gailibei Oak Bur Oak	1-3	40+ 70 ·		r T	A, F, I A E T
Quercus macrocarpa Quercus virginiana	Dui Uak Southarn Liva Oak	1-3 1-9	70+ 50		г F	А, Г, І Л Е І
Quellus Viigillidild Rhamnus cathartica	Buckthorn	1, 2 1-9	50 90	мц	ц Г	м, г, 1 F T
Rohinia neomevicana	New Mexico Locust	1-3	20 25	IVI-II I-M	E]	г, 1 БРТ
Sanindus drummondii	Soapherry	1.2	40	L-M	Fa	F. F.
Sophora japonica	Japanese Pogoda	1, 2	40	M	Fl	F, P

Table 1. Selected tree species for New Mexico. N.B. *Eleagnus angustifolia* (Russian olive) and *Ailanthus altissima* (Tree-of-heaven) are not recommended for planting in New Mexico. These two species are prolific seed producers and spread rapidly.

Scienti	fic Name	Common Name	Growing Zone	Heigh (feet)	t Irrigation Frequency	Selecting and Planting Criteria	Potential Problems
Sonhore	a cocundiflora	Mescal Bean	1	20	М		р
Sorbuc	acunaria	Mountain Ash	22	20	мн	F Fa	ות
Tomori	uuparia wonhvllo	Tomorick (not colt order)	2, 3	20	IVI-I I T	Г, Га Е	D, 1 S
Tilia a	x apiiyiia mericana	American Linden	1 2	60 ·		E	3
Tilia al	nen italia vrdata	Littleleef Linden	1-0	40+			C
	IUdid nomifalia	Chinasa Elma Lasaharla Elma	2, J 1 9	40+	IVI-FT		SU D
Ullinus		English Elm	1, 2	40+	M		D D C
Uimus	Drocera	English Elm	2 1 0	40+	M	ГÌ	B, Su
Ungnac	na speciosa	Mexican Buckeye	1, 2	25	M	FI Fl	
Vitex ag	gnus-castus	Chaste Tree	1, 2	25	M	FI	
Zelkova	serrata	Japanese Zelkova	1, 2	60	M-H		R G
Ziziphu	is jujuba	Chinese Date	1, 2	30	L-M	F	F, S
Conifer	s						
Abies co	oncolor	White Fir	2, 3	50+	M-H		
Cedrus	atlantica	Blue Atlas Cedar	1, 2	50+	М		
Cedrus	deodora	Deodar Cedar	1, 2	50+	М		
Cedrus	lebani	Cedar of Lebanon	1, 2	50+	М		
Cupress	us arizonica	Arizona Cypress	1, 2	40+	М		
Cupress	us sempervirens	Italian Cypress	1, 2	60	М		
X Cupr	essocyparis leylandii	Leyland Cypress	1, 2	40+	М		
Juniper	us chinensis	Chinese Juniper	1-3	40+	L-M		B male
Juniper	us deppeana	Alligator Bark Juniper	1-3	50+	L-M		B male
Juniper	us monosperma	One-Seed Juniper	1-3	30	L		B male
Juniper	us sconulorum	Rocky Mountain Juniper	1-3	50	L-M		B male
Juniner	us virginiana	Eastern Red Cedar	1.2	40	L-M		B male
Metaser	unia glvntrostrohoides	Dawn Redwood	1 2	60+	M	D	D muit
Picea er	aola gijpi osi obolaci noelmannii	Engelmann Spruce	2 3	60+	M-H	D	I
Pices n	undone	Colorado Spruce	2, 3	60+	M-H		I
Dinuc h	rutia var aldarica	Eldarica Pina Afghan Pina	2, 3	70	M		I
1 111us D	iulia vai. tiuaina	Mondell Pine	1, 2	70	111		1
Pinus e	dulis	Piñon, Pinyon	1-3	30+	L-M		Ι
Pinus fl	exilis	Limber Pine	2, 3	30	М		
Pinus n	igra	Austrian Pine	2, 3	40	М		
Pinus p	inea	Italian Stone Pine	1, 2	60	М		
Pinus p	onderosa	Ponderosa Pine	2, 3	60+	М		Ι
Pinus s	lvestris	Scots Pine	2, 3	60	М		
Pinus ti	hunbergiana	Japanese Black Pine	1. 2	45+	М		
Pseudot	suga menziesii	Douglas-Fir	2.3	50+	M-H		
Seguoia	dendron giganteum	Giant Seguoia	2	80	M-H	D	lightning rod
Taxodi	um disticum	Bald Cypress	1.2	60+	M-H	D	
Taxodii	um mucronatum	Mexican Bald Cypress	1, 2	60+	M-H	D	
Palms							
Phoenis	dactvlifera	California Date Palm	1	40+	М	С	
Trachw	carnus fortunai	Windmill Palm	1 9	30	M	C	
Washin	otonia rohusta	Mexican Fan Palm	1, ~	60±	M	C	
Washin Washin	atonia filifora	California Fan Palm	1	60±	M	C	
vv asiiiii	gionia ninera		1	00+	111	C	
Key:	Irrigation frequency L = low (1x/month) M = medium (2x/morth) H = high (3x/month) (for established trees)	Growing zone l = southern th) $2 = $ central 3 = northern and mountain	Selection criteria D = deciduous E = evergreen F = fruit/wildlife Fa =fall color Fl = flowers		Potential problems A = pollen allergy B = banned in Albuquerqu C = cold sensitive D = diseases F = dropped fruit	P = poison $S = short-l$ $Su = sucke$ $T = thorn:$ $W = weak$ $Y = iron c$	nous parts lived ers s wood hlorosis
					I = insects	(yellowing	g between leaf veins)

 Table 1. Selected tree species for New Mexico. N.B. *Eleagnus angustifolia* (Russian olive) and *Ailanthus altissima* (Tree-of-heaven) are not recommended for planting in New Mexico. These two species are prolific seed producers and spread rapidly.

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