

# Shade Trees for New Mexico

Cooperative Extension Service  
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## Guide H-426

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Less than one-third of New Mexico is naturally forested. The rest of the state is natural grassland or desert with small areas of tundra. Thus trees planted in our cities and around our homes must grow under climatic conditions and in soil that does not naturally support tree growth. Yet trees are valuable in our environment, making our surroundings more pleasant and ameliorating the effects of development and other human activity. They cool our cities, cleanse the air, and absorb noise. New Mexicans need tree species that can tolerate the soil and environmental conditions of an arid or semi-arid region. Also, because many trees are not native to our state, they require special care.

### SELECTING A TREE

There are a number of factors to consider when selecting a tree for landscaping, including tree size, water requirements, temperature and other weather conditions, and potential problems. All trees listed in table 1 will grow in New Mexico. This table does not represent an exhaustive list of all potential trees for New Mexico, but it does provide good selections for a variety of situations.

A tree should never outgrow its site, yet it must be large enough to fulfill the purpose for which it was planted. Become familiar with the mature size of a tree in New Mexico before deciding to plant that species. (Table 1 lists the height of various tree species. Consult your county agent for more information on tree size.) Species native to areas with acid soil may be 15–20% smaller in New Mexico than in their native environments.

The tree you choose must also be able to survive on the amount of irrigation it will receive. Some trees grow naturally in streambeds and need large quantities of water. Others can survive on very little water once they are established. Plan an irrigation system that will meet the needs of the trees you choose.

Minimum temperatures and other climatic factors affect tree survival. For example, some trees do poorly

in southern New Mexico because the summers are too hot and dry for them. Fig. 1 shows three growing zones for New Mexico; these zones are based on temperature and other weather conditions. Some trees listed in table 1 can be grown in all the zones, others only in the warmest or coldest regions. Be sure a tree species will survive where you live before deciding to purchase it.

Trees grow at different rates. As a general rule, the faster a tree grows, the weaker its wood and the more likely it is to be attacked by insect pests and diseases. Slow-growing trees, on the other hand, are difficult to transplant and take years to reach salable size. Therefore, large, slow-growing trees are hard to find in nurseries. The best choices are to select a tree with a medium growth rate, or select a fast-growing tree and plant a slow-growing tree nearby to replace it when the fast-growing tree dies.

Other features to look for when selecting a tree are the texture or apparent coarseness of the tree (both in leaf and without leaves), leaf color, flowers and fruit, whether there is any fruit drop, and whether the pollen presents a potential allergy problem. In the case of dioecious trees (trees that have male and female blossoms on different plants), a male tree may present a pollen problem while a female does not. Trees with attractive flowers do not generally have high allergy potential. For many trees listed in table 1, information on pollen allergy potential is unavailable, either because the tree has not been extensively studied or because the pollen allergy potential is so low that medical references do not consider it worth mentioning.

### PLANTING A TREE

When planting a tree, dig a hole that is deep enough for the roots of the tree and twice as wide. Remove a containerized tree from its container and cut through the side of the rootball. Remove wire or twine from the rootballs of balled and burlapped trees. Gently place the rootball in the hole, rolling back any burlap.

**Table 1. Selected tree species for New Mexico.**

Scientific name	Common name	Water use	Pollen allergy potential	Growing zone	Selection & planting criteria	Potential problems	Height
<i>Cercis occidentalis</i>	Western redbud	M	?	C,N,S	Sh,Fl		16'
<i>Acacia greggii</i>	Catclaw acacia	L	?	S	A	T	20'
<i>Albizia julibrissin rosea</i>	Mimosa	M	L	C,S	Fl	D,I,F	20'
<i>Forestiera neomexicana</i>	New Mexico olive	M	? (D)	C,N,S			20'
<i>Fraxinus greggii</i>	Littleleaf ash	M	?	S		I	20'
<i>Prosopis glandulosa</i>	Mesquite	L	?	S	A	F,T	20'
<i>Prunus virginiana melanocarpa</i>	Chokecherry	M	R	C,N	Fl	Su	20'
<i>Ptelea trifoliata</i>	Hoptree	M	?	C,S	Sh	Su	20'
<i>Rhamnus cathartica</i>	Buckthorn	H	?	C,N,S			20'
<i>Sophora secundiflora</i>	Mescal bean	M	?	S		P	20'
<i>Chilopsis linearis</i>	Desert willow	L	R	C,S	Fl	F,W	25'
<i>Chilopsis x Catalpa</i>	Chitalpa	M	R	C,N,S	Fl		25'
<i>Robinia neomexicana</i>	New Mexico locust	M	L	C,N,S	Fl	T,P,F	25'
<i>Ungnadia speciosa</i>	Mexican buckeye	M	?	C,S	Fl		25'
<i>Vitex agnus-castus</i>	Chaste tree	M	?	C,S	Fl		25'
<i>Celtis reticulata</i>	Western hackberry	M	L	C,S			30'
<i>Cercis canadensis</i>	Eastern redbud	H	?	C,N,S	Sh,Fl		30'
<i>Cotinus coggygria</i>	Smoketree	M	?	C,S	Fa		30'
<i>Crataegus phaenopyrum</i>	Washington hawthorn	H	R	C,S,N	Fa,Fl	T	30'
<i>Prunus americana</i>	American plum	H	R	C,N,S	Fl	I	30'
<i>Sorbus acuparia</i>	Mountain ash	H	?	N	Fa	D,I	30'
<i>Ziziphus jujuba</i>	Chinese date	M	?	C,S		Su,F	30'
<i>Crataegus laevigata</i>	Paul's scarlet hawthorn	H	R	C,S,N	Fl	D,T	35'

	"Raywood" ash	H	M(D)	C,S	Fa	I	35'
<i>Fraxinus oxycarpa</i>	"Raywood" ash						
<i>Koelerutera paniculata</i>	Goldenrain tree	M	?	C,N,S	Fl,A	F	35'
<i>Pistachia chinensis</i>	Chinese pistache	M	R	C,S	Fa		35'
<i>Melia azedarach</i> 'Unbraculiformis'	Texas umbrella tree, chinaberry	L	?	S	A	W,F	40'
<i>Quercus gambelii</i>	Gambel oak	M	M	C,N,S	Hi	F	40'
<i>Sapindus drummondii</i>	Soapberry	M	?	C,S	Fa	F	40'
<i>Juglans major</i>	Arizona walnut	H	M	C,S		F	50'
<i>Maclura pomifera</i>	Osage orange	M	H(D)	C,N,S	A	I,F	50'
<i>Robinia x ambigua</i>	Idaho locust	M	L	C,N,S	Fl	P	50'
<i>Robinia pseudoacacia</i>	Black locust	M	L	C,N,S	Fl	D,I,P	50'
<i>Ulmus parvifolia</i>	Chinese elm, lacebark elm	M	?	C,S			50'
<i>Cladrastis lutea</i>	American yellowwood	H	?	C,N	Fl,A		50'
<i>Pyrus calleryana</i>	Callery pear	H	?	C,S	Fa,Fl		50'
<i>Celtis occidentalis</i>	Hackberry	M	L	C,N,S	A	D,I	60'
<i>Fraxinus pennsylvanica</i>	Green ash	H	H(D)	C,N,S	Hi	I	60'
<i>Pawlonia tomentosa</i>	Empress tree	H	?	C,S	Fl	W,F	60'
<i>Quercus emoryi</i>	Emory oak	H	M	C,S		F	60'
<i>Carpinus betulus</i>	European hornbeam	H	?	N			60'
<i>Gymnocladus dioica</i>	Kentucky coffeetree	M	?	C,N,S		F	70'
<i>Populus tremuloides</i>	Quaking aspen	H	L(D)	N	Fa,Hi	W,D,I	70'
<i>Tilia cordata</i>	Littleleaf linden	H	?	C,N	A	Su	70'
<i>Sophora japonica</i>	Japanese pogoda	M	?	C,S	Fl	F,P	75'
<i>Catalpa speciosa</i>	Catalpa	M	L	C,N,S	Fl	D,I,W,F	80'
<i>Gleditsia triacanthos</i> var. <i>inermis</i>	Seedless honey locust	H	?	C,N,S		I,D	80'
<i>Platanus wrightii</i>	Arizona sycamore	H	M	C,S		F	80'

Scientific name	Common name	Water use	Pollen allergy potential	Growing zone	Selection & planting criteria	Potential problems	Height
<i>Populus fremontii</i>	Valley cottonwood	H	H(D)	C,N,S	We	W	80'
<i>Quercus macrocarpa</i>	Bur oak	H	M	C,N,S		F	80'
<i>Tilia americana</i>	American linden	H	?	C,N,S	A	I	80'
<i>Zelkova serrata</i>	Japanese zelkova	H	?	C,S			80'
<i>Carya illinoensis</i>	Pecan	H	M	C,S		I,D,F	100'

**Key:** Water use

L = low  
M = medium  
H = high

**Pollen allergy**

L = low  
M = medium  
H = rare  
R = rarely  
(D) = dioecious  
(male & female plants)  
? = No information available

**Growing zone**

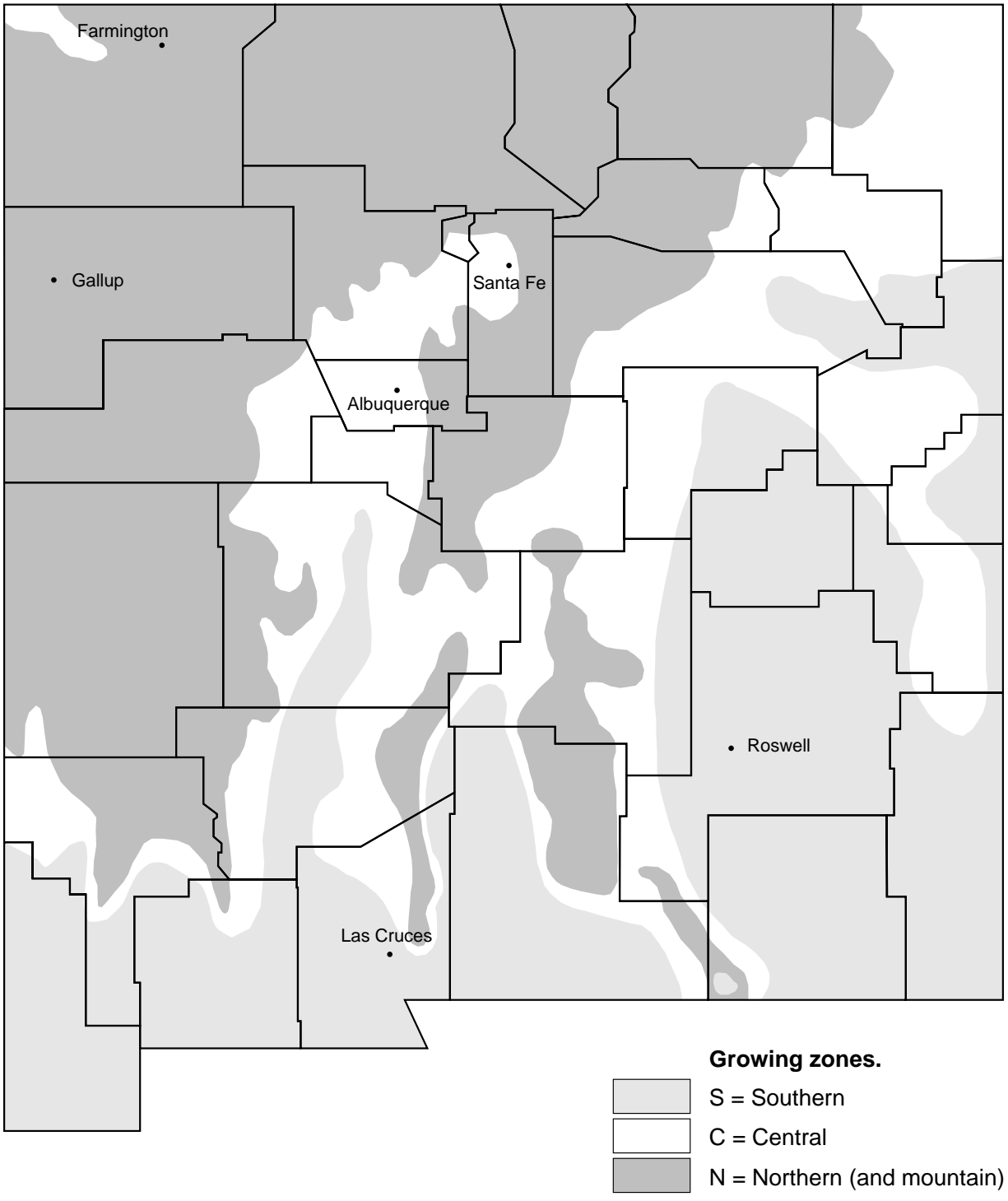
S = Southern  
C = Central  
N = Northern and  
mountain

**Selection & planting criteria**

Fl = flowers  
A = alkaline soils  
Fa = fall color  
Hi = high altitudes  
We = Wet areas  
Sh = shade

**Potential problems**

D = diseases  
I = insects  
W = weak wood  
F = dropped fruit  
Su = suckers  
T = thorns  
P = poisonous plant parts



**Fig. 1. Planting zones in New Mexico.** (From "Climatological data, annual summary-New Mexico 1982." National Weather Service, National Oceanic and Atmospheric Administration, U.S. Dept. of Commerce.)

Backfill the hole with the soil you removed from it. When the hole is half filled with soil, fill the hole with water to settle the soil and remove air pockets, then finish filling the hole with soil. Water again.

### **CARING FOR TREES**

Water all trees regularly for the first two years after they are planted. After two years, reduce the watering frequency for trees with low and medium water requirements. Each time you water any tree, water until the soil is moistened to at least 30" deep.

Trees need nitrogen fertilizer only when they are

growing less each year than is normal for the species. Consult your nursery or county agent to determine appropriate growth rates. When trees need to be fertilized, spread 1 lb of actual nitrogen (5 lb ammonium sulfate) per 1,000 ft<sup>2</sup> under the entire canopy of the tree, and water it into the soil. Add 3 lb of superphosphate at the same time as the nitrogen. Only fertilize trees in the spring or early summer. Otherwise, if you apply nitrogen fertilizer in late summer, trees will be more susceptible to freeze injury.

With early training young trees will produce good form and need less pruning when they are mature. Check with your county Extension agent for information on proper pruning techniques.



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