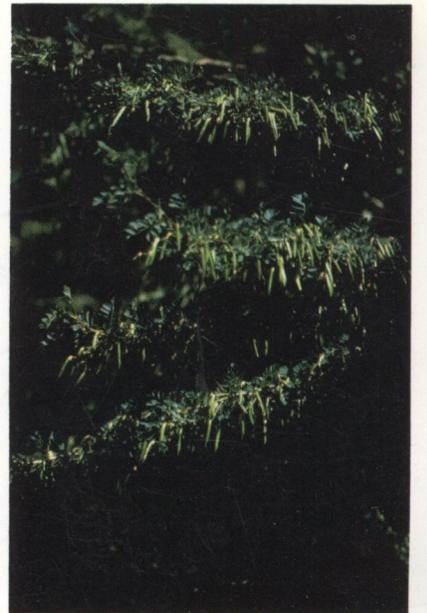


**Colorado
State**
FOREST
SERVICE

Trees for Conservation: A Buyer's Guide



Species Suitability Guide

Common Name	Mature Height (ft. — approx.)	Growth Form	Cold Hardiness*	Drought Resistance*	Tolerance to Alkaline Soils*	Windbreak Suitability*	Wildlife Suitability*	Elevational Range
Conifers								
Rocky Mountain Juniper	15	Dense crown	E	E	E	E	E	Below 9,000 feet
Eastern Redcedar	18	Dense crown	E	E	G	E	E	Below 7,500 feet
Austrian Pine	40	Open crown	G	E	G	F	F	Below 7,500 feet
Ponderosa Pine	40	Open crown	E	E	G	E	G	Below 9,000 feet
Scotch Pine	40	Open crown	G	G	F	F	F	Below 7,000 feet
Lodgepole Pine	60	Open crown	E	E	G	F	G	Above 6,000 feet
Douglas-fir	70	Dense crown	E	G	F	G	G	6,000 to 9,500 feet
White Fir	60	Dense crown	E	G	F	G	G	6,000 to 9,000 feet
Engelmann Spruce	70	Dense crown	E	G	F	G	G	Above 8,000 feet
Colorado Blue Spruce	60	Dense crown	E	G	F	G	G	Below 9,500 feet
Piñon Pine	15	Dense crown	E	E	E	G	G	Below 7,500 feet
Bristlecone Pine	20	Open crown	E	F	P	F	F	Above 7,000 feet
Deciduous Trees								
Green Ash	35	Elliptical	E	E	G	E	F	Below 8,500 feet
Hackberry	35	Spreading	E	G	F	E	G	Below 7,500 feet
Golden Willow	35	Spreading	E	P	G	F	F	Below 8,000 feet
Siberian Elm	40	Spreading	E	E	G	F	F	Below 8,000 feet
Hybrid Cottonwood	60	Spreading	E	P	E	F	F	Below 7,000 feet
Honeylocust	35	Spreading	E	E	G	F	G	Below 7,500 feet
Russian Olive	25	Spreading	E	E	E	E	E	Below 7,500 feet
Narrowleaf Cottonwood	50	Spreading	E	F	E	F	P	Below 9,500 feet
Lombardy Poplar	40	Columnar	E	P	F	F	P	Below 8,000 feet
Aspen	35	Open	E	P	P	P	E	Above 6,000 feet
Deciduous Shrubs								
Caragana	10	Dense	E	E	G	E	E	Below 9,500 feet
Lilac	8	Dense	E	G	G	E	G	Below 8,500 feet
Honeysuckle	10	Spreading	E	G	G	E	G	Below 8,000 feet
Cotoneaster	6	Dense	E	G	F	E	E	Below 9,500 feet
Native Plum	8	Open	E	F	G	G	E	Below 8,000 feet
Sumac (Quailbush)	4	Dense	E	E	E	E	E	Below 8,000 feet
Sandcherry	4	Open	E	G	G	F	G	Below 7,500 feet
Nanking Cherry	6	Spreading	E	G	F	G	G	Below 8,000 feet
Rose	5	Dense	E	E	G	E	E	Below 8,000 feet
European Sage	5	Spreading	F	E	F	P	E	Below 6,000 feet
Chokecherry	10	Spreading	E	G	G	E	E	Below 9,000 feet

*E — Excellent

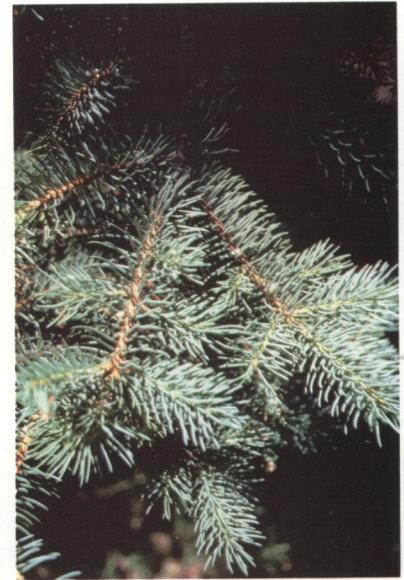
G — Good

F — Fair

P — Poor

Colorado Blue Spruce

Picea pungens



Growth Form: conical

Crown Density: dense

Size: 60-100 feet high
15-35 foot spread

Drought Resistance: fair

Cold Hardiness: excellent

Growth Rate: slow

Life Span: long

Elevational Range: to 9,000 feet

Soil Conditions: fair alkaline tolerance

Possible Insect Problems: pine needle scale, tussock moth, terminal weevil, gall aphids

Possible Disease Problems: Valsa canker, spruce witches' broom

Wildlife Value: high; song and ground birds, small browsers, hooved browsers

Seasonal Color: bluish evergreen

Miscellany: Colorado state tree; high ornamental value

Lilac

Syringa vulgaris



Growth Form: round to irregular

Crown Density: dense

Size: 8-12 feet high
8-12 foot spread

Drought Resistance: very good

Cold Hardiness: excellent

Growth Rate: rapid

Life Span: moderate

Elevational Range: to 8,000 feet

Soil Conditions: tolerates alkaline well

Possible Insect Problems: lilac borer, leaf miners, oyster shell scale

Possible Disease Problems: lilac leaf blotch, powdery mildew, some leaf spots

Wildlife Value: moderately high; songbirds

Seasonal Color: spring flowers — purple or white (fragrant)

Miscellany: though primarily an ornamental, develops into a dense barrier

Golden Willow

Salix vitalina



Growth Form: globular to spreading

Crown Density: moderate

Size: to 35 feet high
to 35 foot spread

Drought Resistance: poor

Cold Hardiness: excellent

Growth Rate: rapid

Life Span: short to moderate

Elevational Range: to 7,000 feet

Soil Conditions: tolerates alkaline well

Possible Insect Problems: aphids

Possible Disease Problems: Cytospora canker, bacterial wetwood

Wildlife Value: moderate; song and game birds

Seasonal Color: not conspicuous

Miscellany: requires moist soil

Russian Olive

Elaeagnus angustifolia

Growth Form: rounded to irregular

Crown Density: moderate

Size: 10-25 feet high

10-25 foot spread

Drought Resistance: excellent

Cold Hardiness: excellent

Growth Rate: fast

Life Span: short to moderate

Elevational Range: to 8,000 feet

Soil Conditions: excellent alkaline tolerance

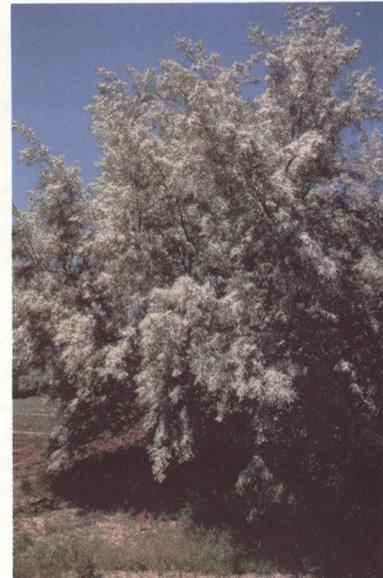
Possible Insect Problems: grasshoppers

Possible Disease Problems: gummosis, some Verticillium wilt

Wildlife Value: high; song and ground birds

Seasonal Color: back of foliage silvery

Miscellany: weak wood; very messy



Rocky Mountain Juniper

Juniperus scopulorum

Growth Form: pyramidal to irregular

Crown Density: dense

Size: 15-50 feet high

10-35 foot spread

Drought Resistance: excellent

Cold Hardiness: excellent

Growth Rate: slow

Life Span: long

Elevational Range: 5,000 to 9,000 feet

Soil Conditions: excellent alkaline tolerance

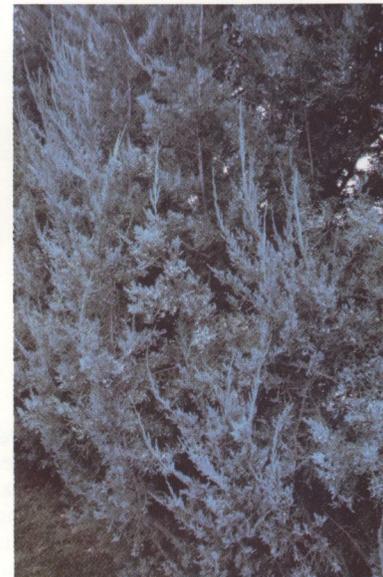
Possible Insect Problems: spider mites, bark beetles

Possible Disease Problems: juniper broom rust, juniper gall rusts, juniper true mistletoe

Wildlife Value: high; large browsing mammals, ground and song birds

Seasonal Color: evergreen

Miscellany: often has multiple stems



Cotoneaster (Peking)

Cotoneaster acutifolia

Growth Form: ovoid to irregular

Crown Density: dense

Size: 6-8 feet high

3-5 foot spread

Drought Resistance: very good

Cold Hardiness: excellent

Growth Rate: fast

Life Span: moderate

Elevational Range: to 8,000 feet

Soil Conditions: tolerates alkaline

Possible Insect Problems: oyster shell scale

Possible Disease Problems: fireblight, fairly resistant

Wildlife Value: high; song and game birds

Seasonal Color: not conspicuous

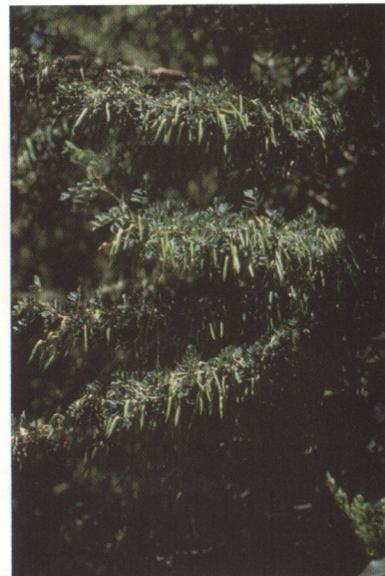
Miscellany: can be clipped to a hedge



Caragana (Siberian Peatree)

Caragana arborescens

Growth Form: irregular or hedgelike
Crown Density: dense
Size: 8-12 feet high
5-8 foot spread
Drought Resistance: excellent
Cold Hardiness: excellent
Growth Rate: rapid
Life Span: short to moderate
Elevational Range: to 8,000 feet
Soil Conditions: tolerates alkaline well
Possible Insect Problems: aphids
Possible Disease Problems: very resistant
Wildlife Value: high; songbirds
Seasonal Color: yellow spring flowers
Miscellany: does well in poor soils



Narrowleaf Cottonwood

Populus angustifolia

Growth Form: ovoid to irregular
Crown Density: moderate
Size: to 50 feet high
to 30 foot spread
Drought Resistance: fair
Cold Hardiness: excellent
Growth Rate: rapid
Life Span: moderate
Elevational Range: 5,000 to 10,000 feet
Soil Conditions: excellent alkaline tolerance
Possible Insect Problems: blotchmine beetle
Possible Disease Problems: Cytospora canker, bacterial wetwood
Wildlife Value: low
Seasonal Color: not conspicuous
Miscellany: very weak wood



Eastern Red Cedar

Juniperus virginiana

Growth Form: pyramidal to irregular
Crown Density: dense
Size: 15-20 feet high
10-20 foot spread
Drought Resistance: excellent
Cold Hardiness: excellent
Growth Rate: slow
Life Span: long
Elevational Range: to 5,000 feet
Soil Conditions: tolerates alkaline well
Possible Insect Problems: spider mites
Possible Disease Problems: rust
Wildlife Value: high; song and game birds
Seasonal Color: evergreen
Miscellany: very adaptable to site conditions



Scotch Pine

Pinus sylvestris

Growth Form: pyramidal to ovoid
Crown Density: open
Size: 40-65 feet high
20-40 foot spread
Drought Resistance: very good
Cold Hardiness: very good
Growth Rate: rapid
Life Span: long
Elevational Range: to 6,000 feet
Soil Conditions: tolerates alkaline
Possible Insect Problems: tip moths, ips beetle
Possible Disease Problems: fairly resistant
Wildlife Value: moderate
Seasonal Color: evergreen
Miscellany: makes an excellent Christmas tree



Siberian (Chinese) Elm

Ulmus pumila

Growth Form: irregular
Crown Density: moderate
Size: to 40 feet high
30-40 foot spread
Drought Resistance: excellent
Cold Hardiness: excellent
Growth Rate: rapid
Life Span: moderate to long
Elevational Range: to 8,000 feet
Soil Conditions: tolerates alkaline well
Possible Insect Problems: elm leaf beetle
Possible Disease Problems: bacterial wetwood
Wildlife Value: moderate; song and game birds
Seasonal Color: not conspicuous
Miscellany: hardiest of all elms



American Plum

Prunus americana

Growth Form: irregular
Crown Density: open
Size: to 8 feet high
to 8 foot spread
Drought Resistance: fair
Cold Hardiness: excellent
Growth Rate: rapid
Life Span: moderate
Elevational Range: to 8,000 feet
Soil Conditions: tolerates alkaline well
Possible Insect Problems: pear-slug sawfly
Possible Disease Problems: fireblight, powdery mildew
Wildlife Value: excellent; hoofed browsers, small mammals
Seasonal Color: large white flowers in May
Miscellany: delicious edible fruit for jellies and canning



Green Ash

Fraxinus pennsylvanica lanceolata

Growth Form: irregular to elliptical
Crown Density: moderate
Size: 35-75 feet high
15-35 foot spread
Drought Resistance: excellent
Cold Hardiness: excellent
Growth Rate: rapid
Life Span: long
Elevational Range: to 6,000 feet
Soil Conditions: good alkaline tolerance
Possible Insect Problems: ash borer, oyster shell scale
Possible Disease Problems: occasional powery mildew
Wildlife Value: fair; game and song birds
Seasonal Color: golden yellow fall foliage
Miscellany: does best in sandy, loam soils



Sumac (Quailbush)

Rhus trilobata

Growth Form: irregular
Crown Density: dense
Size: to 4 feet high
to 8 foot spread
Drought Resistance: excellent
Cold Hardiness: excellent
Growth Rate: rapid to moderate
Life Span: moderate
Elevational Range: to 7,500 feet
Soil Conditions: excellent alkaline tolerance
Possible Insect Problems: fairly resistant
Possible Disease Problems: Fusarium wilt
Wildlife Value: excellent; many birds
Seasonal Color: not conspicuous
Miscellany: berries have slight lemon taste when rolled under tongue



Austrian Pine

Pinus nigra

Growth Form: pyramidal
Crown Density: open
Size: to 40 feet high
to 30 foot spread
Drought Resistance: excellent
Cold Hardiness: good
Growth Rate: slow
Life Span: long
Elevational Range: to 6,000 feet
Soil Conditions: tolerates alkaline well
Possible Insect Problems: pine tip moth
Possible Disease Problems: fairly resistant
Wildlife Value: high; song and ground birds
Seasonal Color: evergreen
Miscellany: forms a good screen



Nanking Cherry

Prunus tomentosa

Growth Form: round to irregular
Crown Density: moderate
Size: to 8 feet high
to 8 foot spread
Drought Resistance: good
Cold Hardiness: excellent
Growth Rate: rapid
Life Span: moderate
Elevational Range: to 7,500 feet
Soil Conditions: tolerates alkaline
Possible Insect Problems: tent caterpillars, bark beetles
Possible Disease Problems: shot-hole leaf spot, black knot
Wildlife Value: high; song and game birds
Seasonal Color: not conspicuous
Miscellany: fruit makes excellent jelly; blooms early so fruit may be killed



Ponderosa Pine

Pinus ponderosa

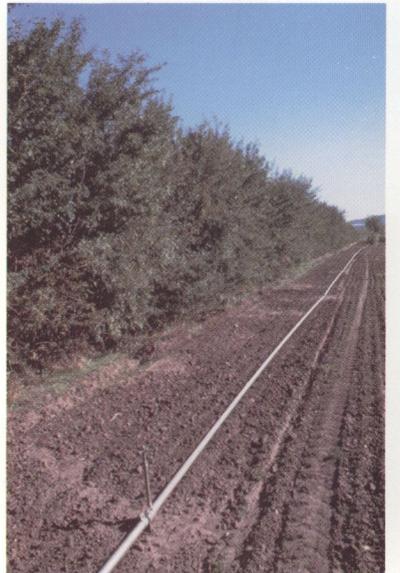
Growth Form: conical to ovoid
Crown Density: moderately dense
Size: 40-100 feet high
15-60 foot spread
Drought Resistance: excellent
Cold Hardiness: excellent
Growth Rate: rapid to moderate
Life Span: long
Elevational Range: to 7,500 feet
Soil Conditions: tolerates alkaline well
Possible Insect Problems: sawflies, bark beetle, tip moth
Possible Disease Problems: western gall rust, dwarf mistletoe, shoestring root rot
Wildlife Value: high; song and ground birds, small mammals, browsers
Seasonal Color: evergreen
Miscellany: needs well-drained soil



Honeysuckle

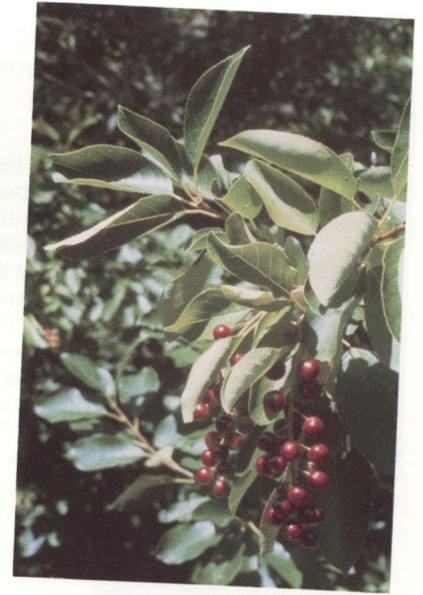
Lonicera tatarica

Growth Form: irregular
Crown Density: moderate
Size: to 8 feet high
to 8 foot spread
Drought Resistance: good
Cold Hardiness: excellent
Growth Rate: rapid
Life Span: moderate
Elevational Range: to 8,000 feet
Soil Conditions: tolerates alkaline well
Possible Insect Problems: aphids
Possible Disease Problems: honeysuckle witches' broom
Wildlife Value: high; song and ground birds
Seasonal Color: pink flowers in spring
Miscellany: good for mass plantings and hedges



Chokecherry

Prunus virginiana



- Growth Form:** ovoid to irregular
- Crown Density:** moderate
- Size:** 6-20 feet high
6-20 foot spread
- Drought Resistance:** good
- Cold Hardiness:** excellent
- Growth Rate:** rapid
- Life Span:** moderate
- Elevational Range:** to 8,000 feet
- Soil Conditions:** tolerates alkaline well
- Possible Insect Problems:** borers, pear-slug sawfly
- Possible Disease Problems:** black knot, fireblight
- Wildlife Value:** high; song and game birds, white-tail deer
- Seasonal Color:** golden yellow to orange fall foliage
- Miscellany:** delicious edible fruit for jellies and pies

Hackberry

Celtis occidentalis



- Growth Form:** globular
- Crown Density:** moderate
- Size:** 40-60 feet high
40-60 foot spread
- Drought Resistance:** very good
- Cold Hardiness:** very good
- Growth Rate:** rapid to moderate
- Life Span:** long
- Elevational Range:** to 6,000 feet
- Soil Conditions:** tolerates alkaline
- Possible Insect Problems:** leaf gall psyllids, spiny elm caterpillar
- Possible Disease Problems:** hackberry witches' broom
- Wildlife Value:** high; song birds and small mammals
- Seasonal Color:** pale lemon-yellow foliage in fall
- Miscellany:** wood of commercial value; nipple gall always present

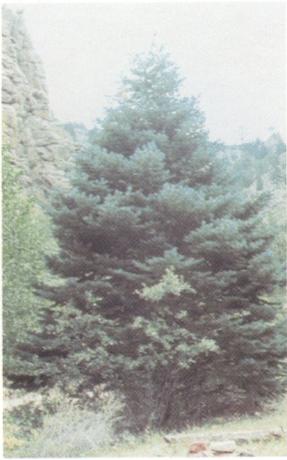
Note

The following species are available from the CSFS nursery but are best suited to specialized conservation needs.

These species have practical conservation uses for soil erosion control, reforestation, wildlife attraction, etc. Occasionally, they are used in windbreak plantings for beautification and diversity.

Some are relatively short lived, some do not tolerate dry site conditions, and some are attractive trees but do not grow with dense foliage.

Consult with a natural resource professional about more details of practical uses for these trees.



White Fir

Abies concolor

Growth Form: conical
Crown Density: dense
Size: 60-100 feet high
20-35 foot spread
Drought Resistance: very good
Cold Hardiness: excellent
Growth Rate: slow
Life Span: long
Elevational Range: 6,000-9,000 feet
Insects: spruce budworm
Douglas fir tussock moth
Disease: needlecast, root rot



Sage

Artemisia abrotanum

Growth Form: rounded to irregular
Crown Density: open
Size: to 8 feet high
to 8 foot spread
Drought Resistance: very good
Cold Hardiness: good
Growth Rate: rapid
Life Span: moderate
Elevational Range: to 6,000 feet
Insects: fairly resistant
Disease: fairly resistant



Lodgepole Pine

Pinus contorta

Growth Form: conical to spire-like
Crown Density: open
Size: 35-70 feet high
15-30 foot spread
Drought Resistance: excellent
Cold Hardiness: excellent
Growth Rate: slow
Life Span: long
Elevational Range: 6,000-9,500 feet
Insects: mountain pine beetle
Disease: mistletoe, western gall rust

Piñon Pine

Pinus edulis

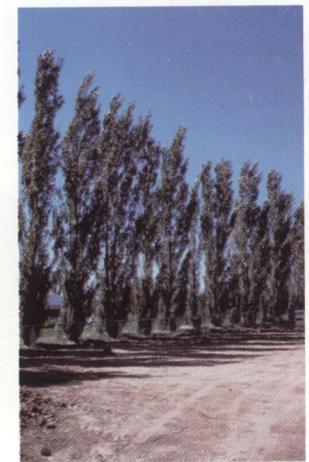
Growth Form: rounded to irregular
Crown Density: dense
Size: 15-30 feet high
15-30 foot spread
Drought Resistance: excellent
Cold Hardiness: excellent
Growth Rate: slow
Life Span: long
Elevational Range: to 7,500 feet
Insects: pinon pitch borer
ips, spindle gall midge
Disease: black stain root disease
mistletoe



Lombardy Poplar

Populus nigra 'Italica'

Growth Form: columnar to ovoid
Crown Density: moderate
Size: to 40 feet high
10-15 foot spread
Drought Resistance: poor
Cold Hardiness: excellent
Growth Rate: rapid
Life Span: short to moderate
Elevational Range: to 6,000 feet
Insects: fall webworm
Disease: bacterial wetwood
Cytospora canker



Aspen

Populus tremuloides

Growth Form: ovoid to columnar
Crown Density: open
Size: 35-50 feet high
20-35 foot spread
Drought Resistance: poor
Cold Hardiness: excellent
Growth Rate: rapid
Life Span: moderate
Elevational Range: to 11,000 feet
Insects: poplar borer, scale
tent caterpillar
Disease: Cytospora canker
leaf spot

Cottonwood

Populus deltoides (var. *Siouxland*)

Growth Form: globular to irregular
Crown Density: moderate
Size: 75-100 feet high
50-75 foot spread
Drought Resistance: poor
Cold Hardiness: excellent
Growth Rate: rapid
Life Span: moderate
Elevational Range: to 6,000 feet
Insects: leaf miners, fall webworm
poplar borers, oyster shell scale
Disease: Cytospora canker, wetwood
Marssonina leaf blight

Engelmann Spruce

Picea engelmannii

Growth Form: conical to spire-like
Crown Density: dense
Size: 70-90 feet high
15-30 foot spread
Drought Resistance: very good
Cold Hardiness: excellent
Growth Rate: slow
Life Span: long
Elevational Range: above 8,000 feet
Insects: spruce bark beetle
spruce budworm
Disease: root rot, spruce broom rust

Douglas-fir

Pseudotsuga menziesii

Growth Form: conical to pyramidal
Crown Density: dense
Size: 70-100 feet high
20-35 foot spread
Drought Resistance: good
Cold Hardiness: excellent
Growth Rate: slow
Life Span: long
Elevational Range: 6,000 to 9,000 feet
Insects: spruce budworm
Disease: shoestring root rot
Douglas-fir mistletoe
bacterial gall

Honeylocust

Gleditsia triacanthos inermis

Growth Form: irregular, spreading
Crown Density: open, fine-textured
Size: 35-75 feet high
15-50 foot spread
Drought Resistance: very good
Cold Hardiness: very good
Growth Rate: rapid
Life Span: moderate to long
Elevational Range: to 7,000 feet
Insects: pod gall midge, scale insects
Disease: Thyronectria canker, sunscald
Cytospora canker