

Tried and True Trees

For Northern Utah

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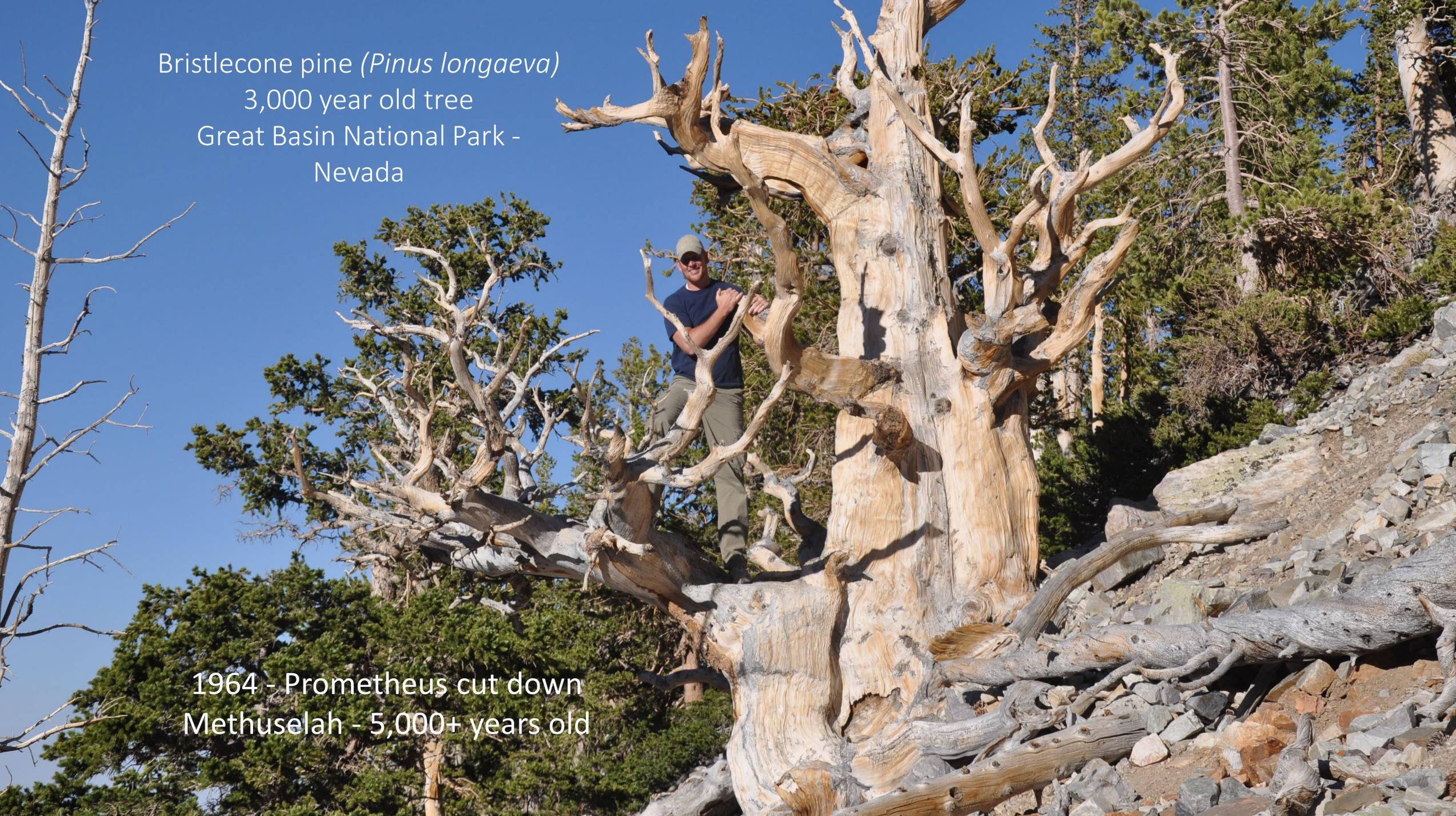
Trees are Ancient Creatures....

Coastal redwood (*Sequoia sempervirens*)
380 feet tall
Redwood National Park – Northern California



Bristlecone pine (*Pinus longaeva*)
3,000 year old tree
Great Basin National Park -
Nevada

1964 - Prometheus cut down
Methuselah - 5,000+ years old



Ginkgo biloba - planted 1752
Hortus Botanicus – Netherlands
(270 years old)





Limber pine (*Pinus flexilis*)
550 to 600 year old – Logan Canyon, Utah

History of the Dawn Redwood *(Metasequoia glyptostroboides)*

- Deciduous conifer with feathery leaves
- Fossil records show remnants...
50-100 million years ago
- 1944 re-discovered in China
Szechwan Province
- 1947 Harvard Expedition
Arnold Arboretum
- Brought back 4 lbs. seed to Boston
Distributed seedlings around the U.S
- Available cultivars:
 - 'Gold Rush'
 - 'Miss Grace'
 - 'Jade Prince'



Trees Want to Live...



Weeping sequoia - *Sequoiadendron giganteum* 'Pendulum'

It is as easy as 1...2...3

1- Proper site selection

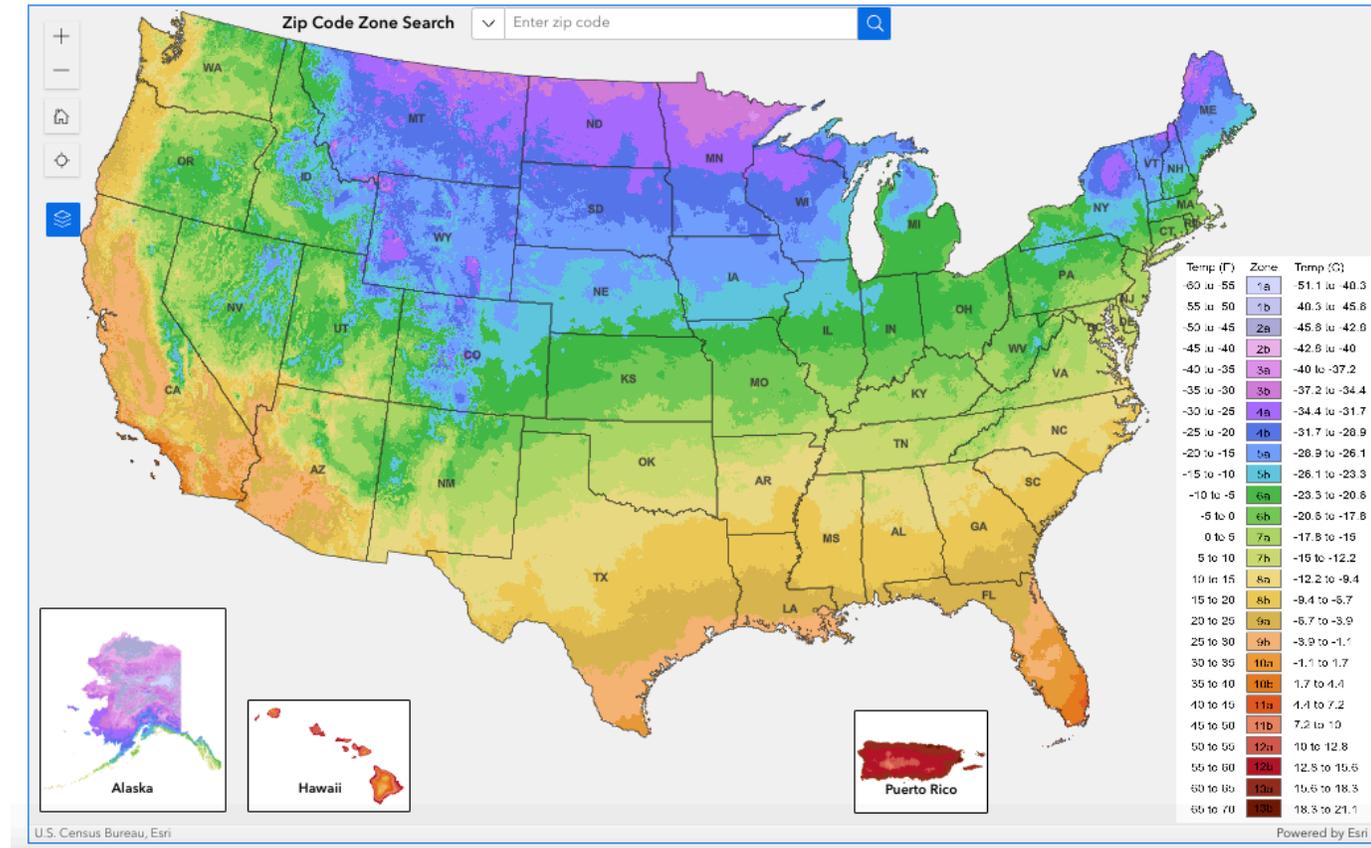
2- Proper species selection

3- Proper care and maintenance

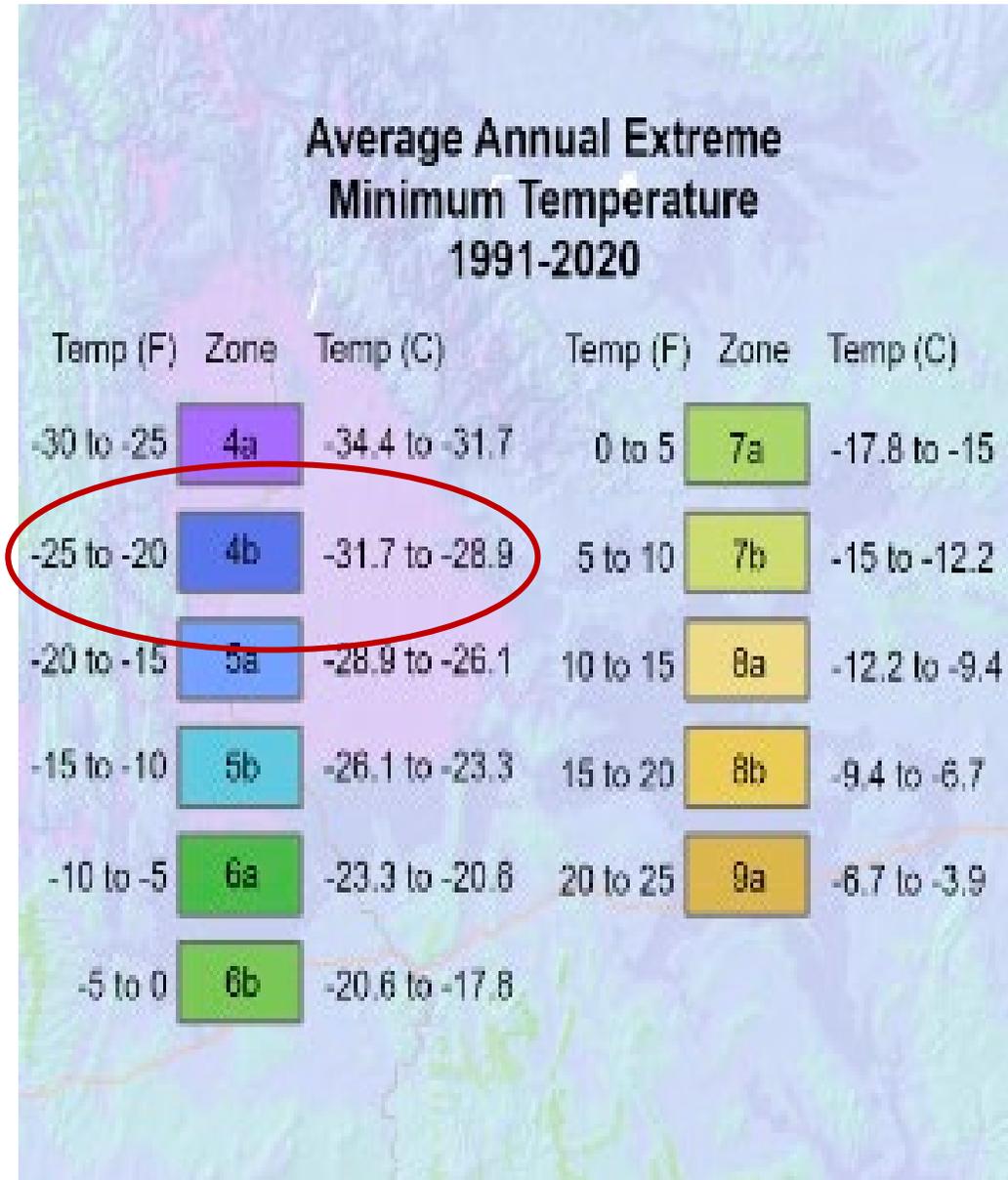
Proper Site - Cold Hardiness

USDA Hardiness Zone Map

- Based on *average* coldest temperatures
- Ranges from:
 - 1 (coldest)
 - 13 (warmest)
 - a and b are 5°F differences
- Averages from 1992 - 2020
- Does NOT:
 - Represent the COLDEST temperatures
 - Reflect microclimates
 - Replace experience



USDA Hardiness Zone Map... 2023



- Utah ranges from 4a to 9a

Wellsville	6a (-5 to -10°F)
Logan	6a (-5 to -10°F)
Cedar City	6b (-5 to 0°F)
Kanab	7a (0 to 5°F)
Salt Lake	7a (5 to 10°F)
St. George	8b (15 to 20°F)

- Consider Microclimates:

- valleys, nooks, hillsides...
- north vs. south facing walls

Sometimes Weather is Random...



October 26th 2020

- Temperatures dropped drastically
 - 50 °F daytime
 - 10 °F night time
- Freezing water ruptured cells
- Tree crowns were killed
 - Walnut
 - Maple
 - Peach
 - Apple (blossoms)
 - Zelkova
 - Sycamore
 - Plum



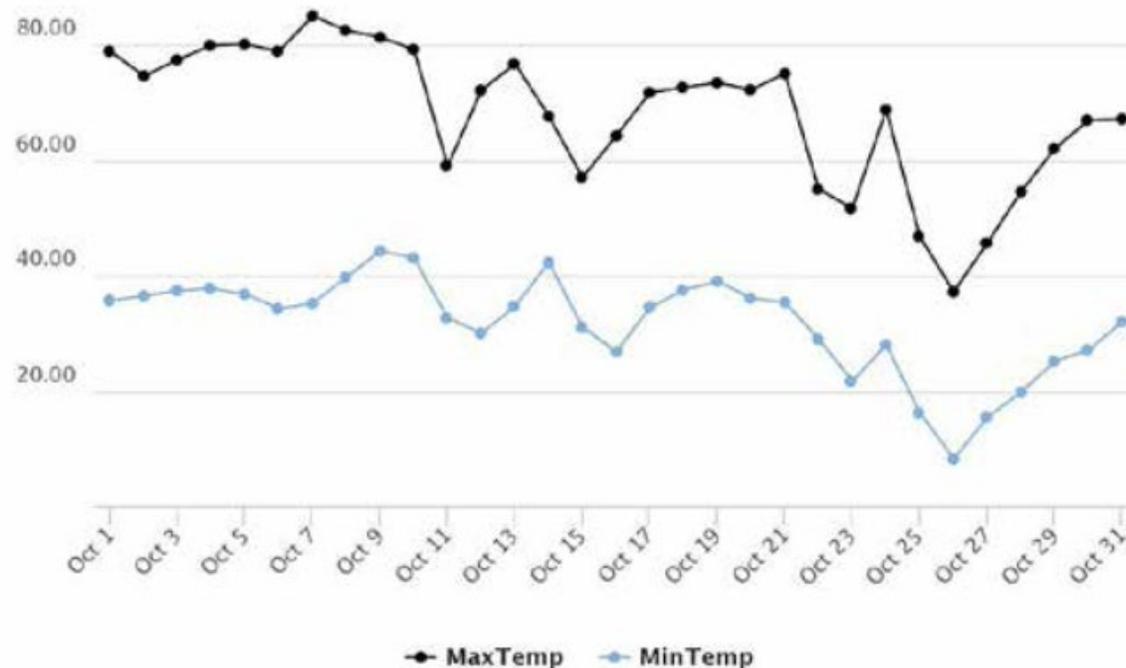
Summer 2021
Vol. XV

UTAH PESTS QUARTERLY

Utah Plant Pest
Diagnostic Laboratory

USU Extension

N E W S L E T T E R



Recorded maximum and minimum temperatures (F) from Oct 1 – Oct 31 at one Utah County location showing several days below 28°F with the greatest drop on Oct 26.

Average temperatures (F) for weather stations in northern Utah counties, and the drop in temperature from the daytime high on October 25 to the low temperature on October 26.

County	Oct. 25 high temp (4 pm)	Oct. 26 low temp (6 am)	Temp drop in 14 hr
Box Elder	48	15	33
Cache	49	10	39
Davis	47	17	30
Juab	49	8	41
Utah	47	11	36
Weber	47	17	30

Proper Site - Winter Injury

- Frost cracks:
 - young trees most susceptible
 - dark and thin bark
 - wrap young trunks (reflective wrap)
- Sun scald:
 - broadleaf evergreens
 - south / west exposure
 - Examples: boxwood, yew, laurel, euonymus



Proper Site - Soil Drainage

Sandy soils can absorb
2" per hour

Loam soils can absorb
 $\frac{3}{4}$ " per hour

Clay soils can absorb
 $\frac{1}{2}$ " per hour



24 hour rule...

Proper Site - Soil pH and Iron Chlorosis



- **Cause:**

highly buffered soils

alkaline soils - pH (7.8 to 8)

- **Symptoms:**

- interveinal yellowing
- found on new growth
- marginal burning / bleaching
- tip die-back

Species to AVOID:

Sugar maple	(<i>Acer saccharinum</i>)
Silver maple	(<i>Acer saccharum</i>)
Red maple	(<i>Acer rubrum</i>)
'Autumn Blaze'	(<i>Acer x freemani</i>)

Tree Species and Iron Efficiency

Not Efficient

~~Blueberry~~

Cistena plum

~~Red maple~~

Silver maple

~~Sweetgum~~

~~Pin oak~~

Amur maple

Autumn Blaze maple

~~Azalea~~

~~Rhododendron~~

Moderately Efficient

Aspen

Birch

Horse chestnut

London planetree

Conifers

Crabapple

Flowering cherry

Flowering pear

Norway maple

Shantung maple

Very Efficient

Ash

Box Elder

Poplar

Most oaks

Cottonwood

Hackberry

Honey locust

Linden

Elm

Shantung maple (Acer truncatum) hybrids



Pacific Sunset

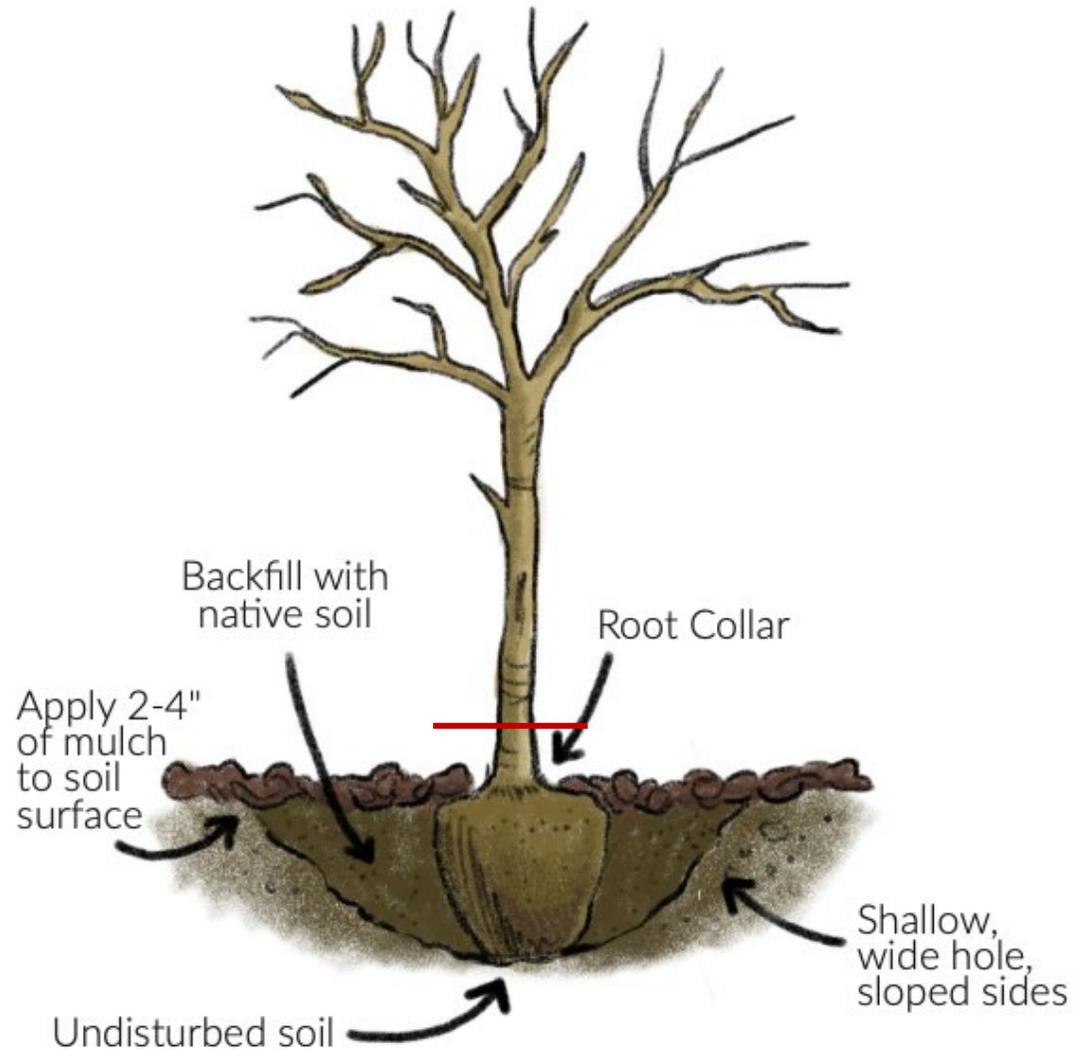


Crimson Sunset



Ruby Sunset

Proper Site - Give them a Forever Home



- Plant during cooler months:

- reduces transplant shock

- Planting Steps:

- 1- Dig a hole

2 to 3 times as wide

- 2- Put the tree/shrub in

same depth as container (or higher)

- 3- Water 1 to 2 times per week

5 to 10 gallons per week

Figure 5. Tree Installation diagram

Proper Species Selection - The Tried and True...

- Visit public Botanic Gardens

USU Botanical Center - Kaysville

Ogden Botanical Gardens - Ogden

Thanksgiving Point - Lehi

Red Butte Garden - Salt Lake

Red Hills Desert Garden - St. George

- Get ideas then run with them...



Butchart Gardens - Victoria, Canada

A Wide Variety of Shapes and Forms

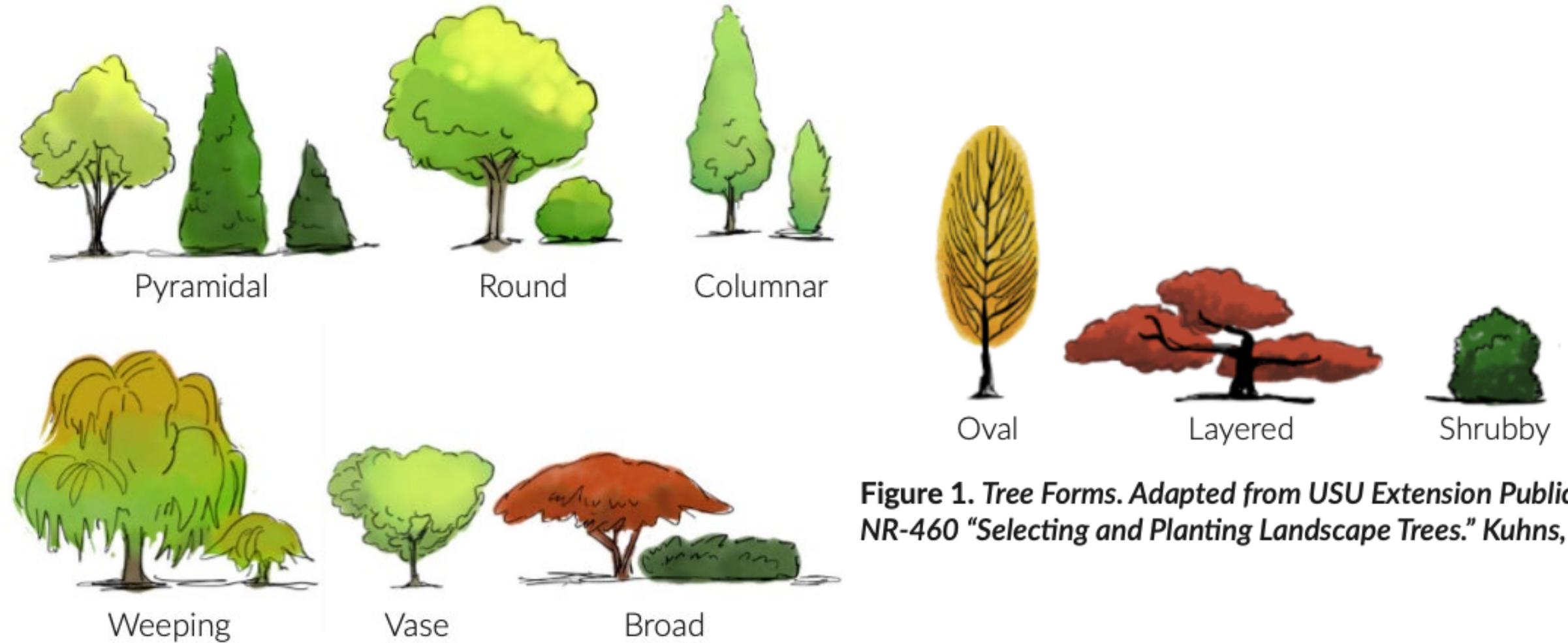
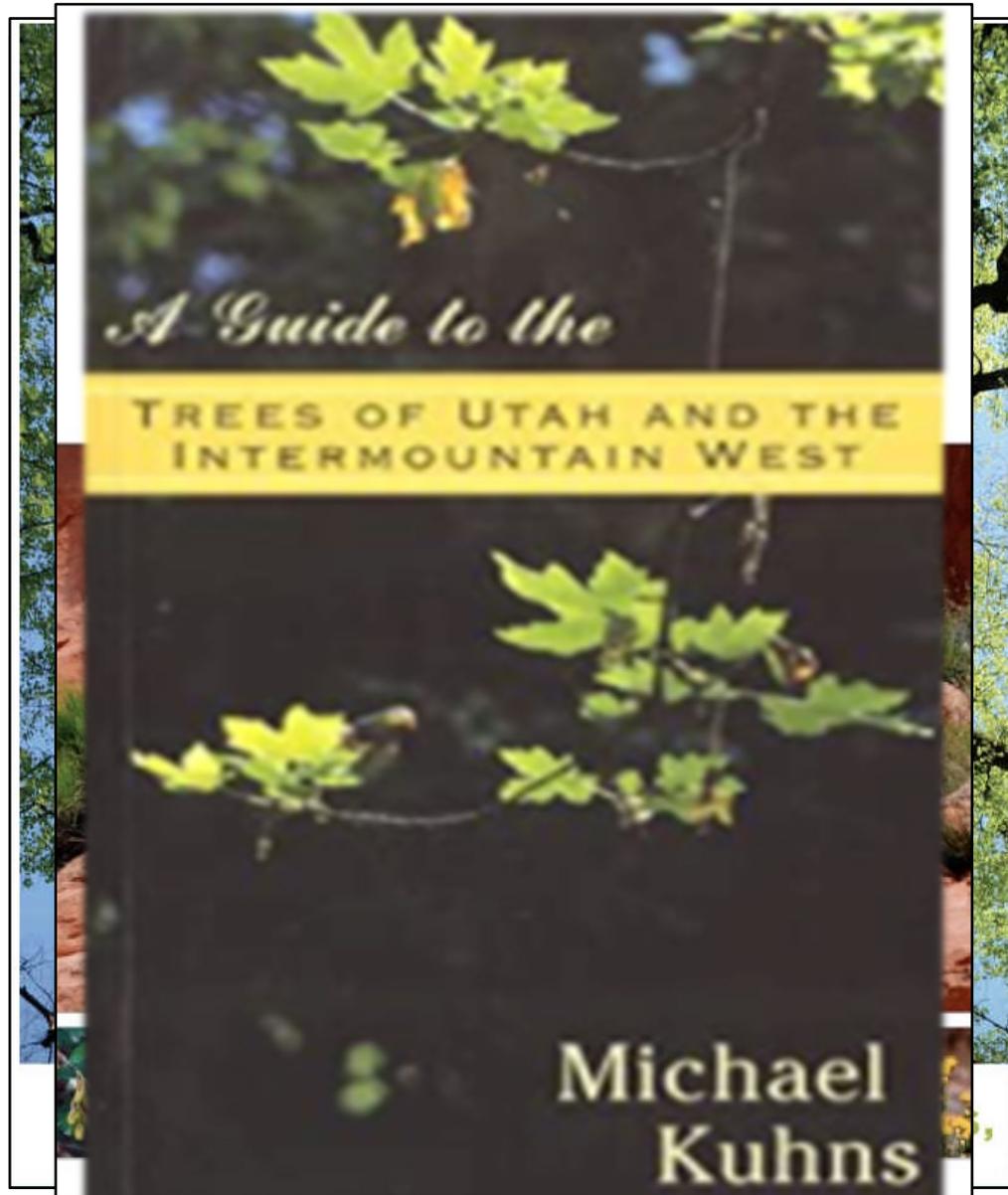


Figure 1. Tree Forms. Adapted from USU Extension Publication NR-460 "Selecting and Planting Landscape Trees." Kuhns, M.

A few Tree References...



- *Michael A. Dirr, Keith S. Warren*
 - Encyclopedia of Trees and Shrubs
 - The Tree Book
- *Renee Van Buren, et.al.*
 - Woody Plants of Utah
- *Michael Kuhns*
 - A Guide to the Trees of Utah and the Intermountain West

USU's Tree Browser is a database with photos and text descriptions of 245 tree species found in Utah and the Intermountain West. Browse through the complete tree list or narrow your search by selecting from 21 characteristics. [Learn more.](#)

Starts With **A** **B** **C** **D** **E** **F** **G** **H** **I** **J** **K** **L** **M** **O** **P** **Q** **R** **S** **T** **U** **W** **Y** **Z**

Select Characteristics

Reset

Sort By...

Search



Select Tree Characteristics

General

Growth

Ornamental

Tolerance of...

Search

Showing 245 of 245 trees

With these characteristics: **None**

A



Alder, European or Common

Alnus glutinosa

Betulaceae - Birch Family



Cottonwood, Eastern

Populus deltoides

Salicaceae - Willow Family



Cottonwood, Fremont

Populus fremontii

Salicaceae - Willow Family



Cottonwood, Narrowleaf

Populus angustifolia

Salicaceae - Willow Family



Crabapple

Malus species

Rosaceae - Rose Family



Crapemyrtle

Lagerstroemia indica

Lythraceae - Crapemyrtle Family



Cypress, Arizona

Cupressus arizonica

Cupressaceae - Cypress Family



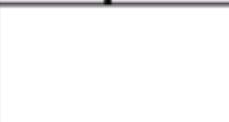
Cypress, Italian

Cupressus sempervirens

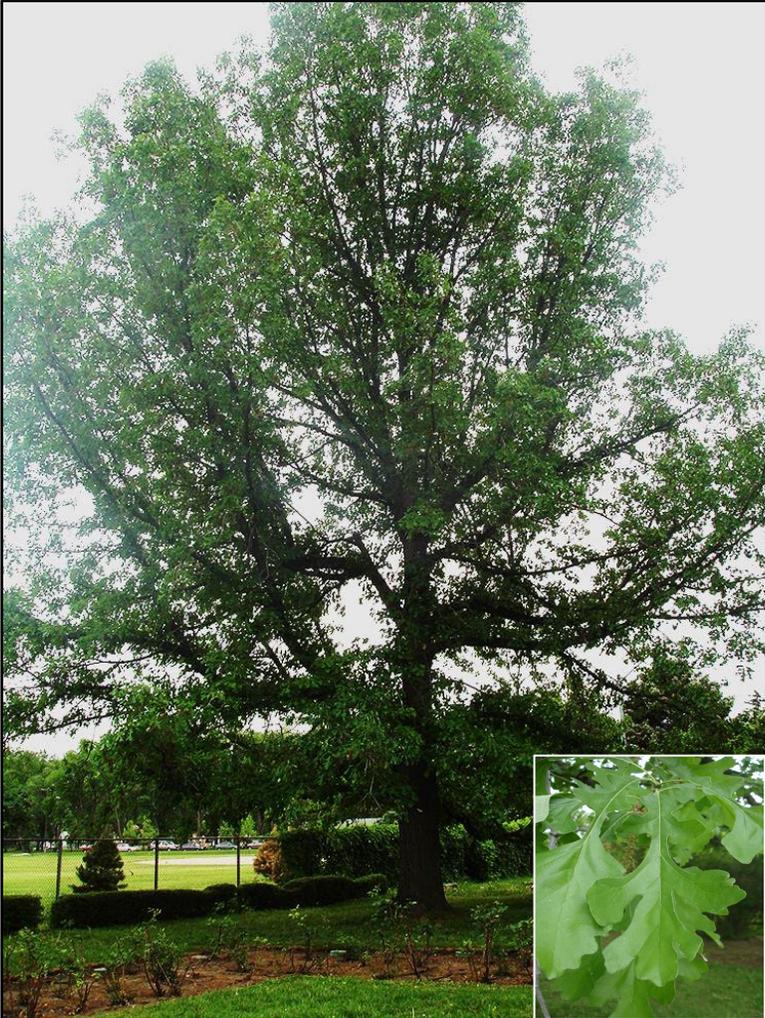
Cupressaceae - Cypress Family



Crabapple (*Malus*) Information Chart

NAME	IMAGE	FLOWER PHOTO	SIZE			SHAPE	FOLIAGE	FLOWER	FRUIT	DISEASE RESISTANCE			
			H	W	ZONE					SCAB	FIRE-BLIGHT	CEDAR-APPLE RUST	MILDEW
<p><i>Malus</i> 'Adams' Adams Crabapple</p> <p>Deep pink buds open to single pink blooms. This reliable performer has symmetrical form.</p>			20'	20'	4	Dense, rounded	Green with reddish tint in spring	Deep pink buds open to pink blooms, single	Red, 3/8" persistent	Good	Excel.	Excel.	Good
<p><i>Malus</i> 'Adirondack' Adirondack Crabapple</p> <p>Adirondack is an important cultivar because of its form and outstanding flower display. It is a compact, dense tree with strongly upright form. It produces one of the heaviest flower displays of the crabs. A Don Egolf, U.S. National Arboretum introduction.</p>			18'	10'	4	Densely upright, inverted cone	Medium green	White	Bright red, 1/2"	Excel.	Excel.	Excel.	Excel.
<p><i>Malus</i> 'Coralcole' Coralburst® Crabapple</p> <p>Top grafted on a 4' standard, Coralburst® is slow growing and forms a very dense, symmetrically rounded head.</p>			15'	15'	4	Compact, dense, rounded	Dark green	Coral pink buds, double rose colored flowers	Yellow-green, 3/8"-1/2"	Fair	Excel.	Excel.	Excel.
<p><i>Malus</i> 'Donald Wyman' Donald Wyman Crabapple</p> <p>Glossy clean foliage gives the tree a fresh appearance all summer. Small bright red fruit is among the most persistent of all crabapples.</p>			20'	24'	4	Rounded	Green, glossy and clean	Single, white	Bright red, 3/8", abundant, persistent	Good	Fair	Excel.	Good
<p><i>Malus sargentii</i> 'Select A' Firebird® Crabapple</p>			8'	10'	4	Rounded,	Dark green	White, opening	Bright red, 3/8"	Excel.	Excel.	Excel.	Excel.

Large Trees For Shade



Bur oak
(*Quercus macrocarpa*)

'Cobblestone'
'Urban Pinnacle'



Japanese Zelkova
(*Zelkova Serrata*)

'Wireless' 'Zileration'
'Kiwi Sunset' 'Green Vase'



Honey locust
(*Gleditsia triacanthos 'inermis'*)

'Imperial' 'Shademaster'
'Northern Sentinel'

Large Trees For Shade



European beech
(*Fagus sylvatica*)

'Dawyck Purple'
'Asplenifolia' 'Spaeth'



Ginkgo (Maidenhair tree)
(*Ginkgo biloba*)

'Princeton Gold'
'Goldspire'



Little Leaf linden
(*Tilia cordata*)

'Greenspire'
'Corinthian'

Elm Hybrids - over 20 cultivars



Lacebark elm
(*Ulmus parvifolia*)

50' x 40'
'Allee'



J. Frank Schmidt Company

Greenstone elm
(*Ulmus davidiana* 'JFS KW2UD')

60' x 40'
Chinese native



Dan Petters University of Minnesota

Prairie Expedition elm
(*Ulmus americana* 'Lewis & Clark')

50' x 40'
2024 release (200 year)

Hybrid elms are NOT Trashy Siberian elms

Colonial Spirit (*Ulmus americana*)

one of the best forms (75'tall)

Greenstone (*Ulmus davidiana*)

classic vase shape, cold hardy (4) dark green leaves

Pioneer (*Ulmus x hollandica*)

vigorous growth, broad shape

Frontier (*Ulmus minor x parvifolia*)

vase shapes, dark green leaves, burgundy fall color

Accolade (*Ulmus davidiana*)

unruly shape, insect resistant

Prairie Expedition (*Ulmus americana*)

cold hardy (3) dark green leaves

Allee (*Ulmus parvifolia*)

lacebark, University of Georgia

Homestead (*Ulmus glabra x carpinifolia*)

pyramidal shape, drooping branches, dark leaves

Princeton (*Ulmus americana*)

upright, vase shaped, weak branching

Other Large Trees that Thrive...

Z4 'State Street' Miyabe maple	35' x 35'	(<i>Acer miyabei</i> 'Morton')
Z3 Sensation Boxelder	30' x 25'	(<i>Acer negundo</i> 'Sensation')
Z4 Norway maple	40' x 40'	(<i>Acer platanoides</i>)
Z5 'Heartland' catalpa	50' x 25'	(<i>Catalpa speciosa</i> 'Hiawatha 2')
Z4 'Prairie Sentinel' hackberry	45 x 12'	(<i>Celtis</i> 'JFS-KSU1')
Z4 Turkish filbert	40' x 30'	(<i>Corylus colurna</i>)
Z4 'Skinny Latte' Kentucky coffee tree	45' x 15'	(<i>Gymnocladus dioicus</i> 'Morton')
Z4 American hophornbeam	35' x 35'	(<i>Ostrya virginiana</i>)
Z3 Amur Corktree	30' x 25'	(<i>Phellodendron amurense</i>)
Z5 London Planetree / Sycamore	55' x 50'	(<i>Platanus x acerfolia</i> 'Bloodgood')
Z4 'Crimson Spire' oak	45' x 15'	(<i>Quercus x bimundorum</i> 'Crimschmidt')
Z6 Texas red oak	35' x 35'	(<i>Quercus buckleyi</i>)



'Crimson Spire' oak



'Hiawatha' catalpa



'Rugged Charm' Miyabe maple

Small - Medium Trees



Crabapples
(*Malus sp.*)

25' x 20'

'Sparkling Sprite' 'Royalty' 'Raspberry Spear'



Star magnolia
(*Magnolia stellata*)

15' x 10'

'Royal Star' 'Pink Stardust'



Thornless Cockspur hawthorn
(*Crataegus crus-galli* var. *inermis*)

20' x 20'

'Crusader'



Serviceberry
(*Amalanchier grandiflora*)

20' x 15'
'Autumn Brilliance'



Goldenrain tree
(*Koelreuteria paniculata*)

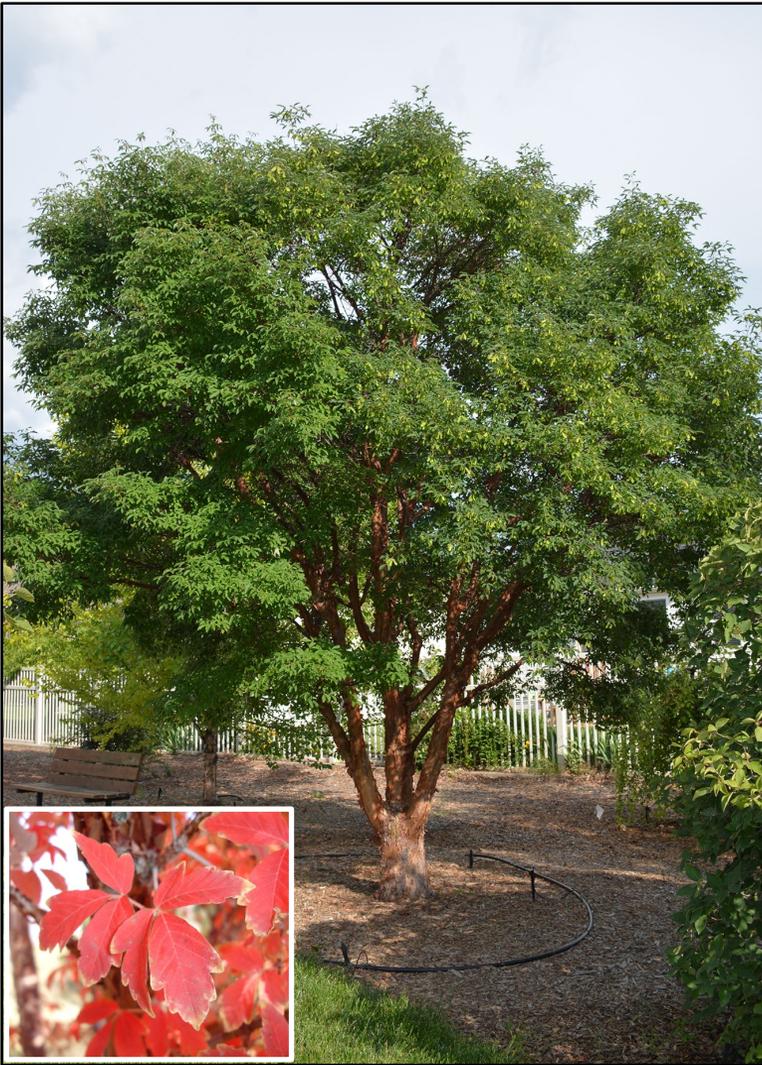
30' x 20'



Western chokecherry
(*Prunus virginiana*)

30' x 30'
'Canada Red' 'Sucker Punch'

Small - Medium Trees



Paperbark maple
(*Acer griseum*)

25' x 20'
'Copper Rocket' 'Fireburst'



Tatarian maple
(*Acer tatarica*)

20' x 20'
'Hot Wings' 'Rugged Charm'



Bigtooth maple
(*Acer grandidentatum*)

30' x 20'
'Mesa Glow' 'Manzano'



'Mesa Glow' bigtooth maple



'High Peaks' bigtooth maple



'Manzano' bigtooth maple
@BosqueBill.com

Cerro Blanco Trail, Cibola NF, Tañique, NM - October 9, 2019

A close-up photograph of numerous bright red maple leaves. The leaves are in various stages of peak color, with some showing slight yellowing at the veins. They are densely packed, filling the frame. The background is a soft, out-of-focus blur of more red leaves, creating a sense of depth. The lighting is even, highlighting the texture and color of the foliage.

Possible New Introduction...

Other Small-Medium Trees that Thrive...

Z5 Chinese fringe tree	20' x 25'	(<i>Chionanthus retusus</i>)
Z3 Amur maackia	25' x 20'	(<i>Maackia amurensis</i>)
Z4 'Copper Rocket' paperbark maple	25' x 12'	(<i>Acer griseum 'JFS KW22AGRI'</i>)
Z4 'Estelle' oak	30' x 30'	(<i>Quercus gambelii x macrocarpa 'Estelle'</i>)
Z6 Japanese flowering cherry	25' x 25'	(<i>Prunus serrulata</i>)
Z3 Korean maple	15' x 15'	(<i>Acer psuedosieboldianum</i>)
Z4 Seven-Son flower	15' x 10'	(<i>Heptacodium miconioides</i>)
Z5 Saucer magnolia	25' x 25'	(<i>Magnolia soulangiana</i>)
Z4 Japanese Tree lilac	25' x 20'	(<i>Cornus kousa</i>)
Z4 Black Elderberry	12' x 12'	(<i>Sambucus nigra</i>)
Z4 Gamble oak	25' x 25'	(<i>Quercus gambelii</i>)
Z4 Rhus sp	10' x 10'	(<i>Rhus sp.</i>)



'Copper Rocket' maple

'Stars & Sparks' Seven-Son



Raspberry Spear' crabapple

Tips for Identifying Common Conifers...



- Spruce = short – square – spiky
- Fir = flat – friendly
- Cedars are clustered
- Pine needles are packaged
 - 1 needle – Pinyon
 - 2 needle – Austrian, Scotch
 - 3 needle – Ponderosa
 - 5 needle – Himalayan, White

Cool Conifers



White Fir
(*Abies concolor*)



Atlas Cedar
(*Cedrus atlantica*)



Arizona cypress
(*Cupressus arizonica*)

Cool Conifers



Bosnian Pine
(*Pinus heldreichii*)



Deodar cedar
(*Cedrus deodara*)



'Vanderwoolf' Limber Pine
(*Pinus flexilis* 'Vanderwolf')

Cool Conifers



Colorado Blue spruce
(*Picea pungens* 'Glauca')



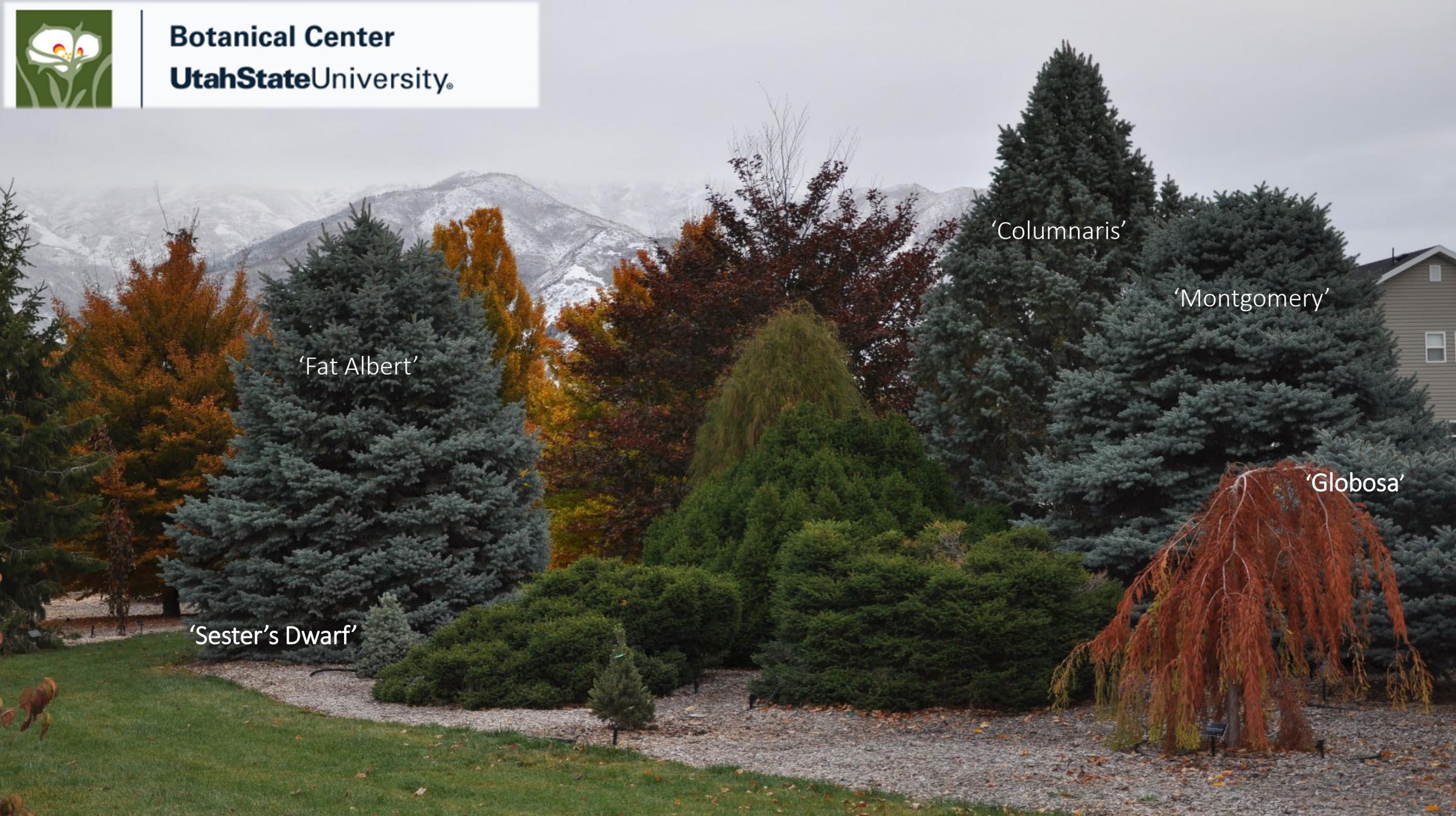
Scotch pine
(*Pinus sylvestris*)



Austrian pine
(*Pinus nigra*)



Botanical Center
Utah State University.



'Fat Albert'

'Columnaris'

'Montgomery'

'Sester's Dwarf'

'Globosa'

Other Cool Conifer Species...

- Z5 Cedar of Lebanon (Cedrus libani)
- Z5 Incense cedar (Calocedrus decurrens)
- Z4 Japanese larch (Larix kaempferi)
- Z4 Weeping white spruce (Picea glauca 'Pendula')
- Z3 Bristlecone pine (Pinus aristata)
- Z2 Jack pine (Pinus banksiana)
- Z3 Lodgepole pine (Pinus contorta)
- Z4 Himalayan pine (Pinus wallichiana)
- Z4 Douglas fir (Pseudotsuga menziesii)
- Z5 Giant weeping sequoia (Sequoiadendron giganteum)
- Z4 Bald cypress (*Taxodium distichum*)**



Taxodium distichum - Bald cypress

Cedar of Lebanon - Hidcote Garden, England



Other Possible Plants... in the Right Place...

Z5 Japanese maple	(<i>Acer palmatum</i>)
Z4 Horse chestnut	(<i>Aesculus hippocastanum</i>)
Z4 River birch	(<i>Betula nigra</i>)
Z5 Hornbeam	(<i>Carpinus betulus</i>)
Z4 Katsura tree	(<i>Cercidiphyllum japonicum</i>)
Z5 Eastern Red bud	(<i>Cercis canadensis</i>)
Z5 Kousa dogwood	(<i>Cornus kousa</i>)
Z4 Cornelian cherry	(<i>Cornus mas</i>)
Z4 Tulip poplar	(<i>Liriodendron tulipifera</i>)
Z6 Sweet gum	(<i>Liquidambar styraciflua</i>)
Z4 Persian ironwood	(<i>Parrotia persica</i>)
Z6 Chinese Pistache	(<i>Pistacia chinensis</i>)
Z3 Amur cork tree	(<i>Phellodendron amurense</i>)



Acer palmatum - Japanese maple

Some Online References...

USU Tree Browser
www.treebrowser.org

Utah Community Forest Council
<https://utahurbanforest.org/amazing-trees>

USU Extension Yard and Garden
www.garden.usu.edu