

# for Small Spaces Dr. James Klett Colorado State University

Dr. James Klett Colorado State University Eric Hammond CSU Extension –Adams County

# General criteria for inclusion:

- Underused tree or shrub
- Most suited to 4000-6000'
- Ideally, multiple seasons of interest or ornamental features
- Requires less growing space
- Availability may be limited





# Acer grandidentatum 'Manzano' Manzano Bigtooth maple

## **Ornamental features:**

• Reliable red-orange-yellow fall color

- Selected from Manzano Mtns. of NM
- Better-adapted to alkaline soil
- More tree-like than Bigtooth maple
- Good tolerance to drought and cold (Zone 4)
- Slower-growing to about 25' high and 20' wide
- Limited availability







## Carpinus betulus 'Frans Fontaine' Frans Fontaine Hornbeam

#### **Ornamental Features**

- Dark green foliage turns yellow in fall
- Narrow, columnar shape is maintained with maturity

- Height: 20-30', width: 10-15'
- Exposure prefers sun but will tolerate light to moderate shade
- Current season's growth curves inward toward the central leader

















# Celtis occidentalis 'JFS-KSU1' Prairie Sentinel<sup>®</sup> Common Hackberry

#### **Ornamental Features**

- Tightly fastigiate, columnar growth habit
- Foliage medium green, turns yellow in fall

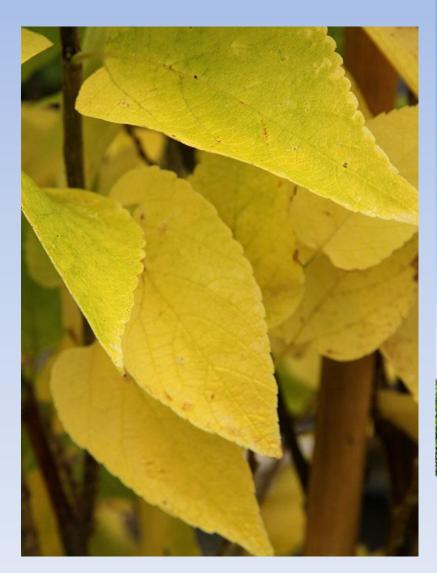
- Discovered in the rugged high plains of western Kansas
- Great adaptability to heat, drought and cold of the prairie
- A columnar tree for narrow city streets in toughest conditions
- Probable susceptibility to the same insects as hackberry
- Height: 45', width: 12'













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# Juniperus scopulorum 'Woodward' Woodward Rocky Mountain Juniper

## **Ornamental features**

- Narrow/columnar growth habit
- Blue-green needles

- Good tall screening juniper
- Appears less prone to snow load damage
- Well-adapted, drought tolerant after establishment
- Appears to be male no fruit observed
- Limited availability



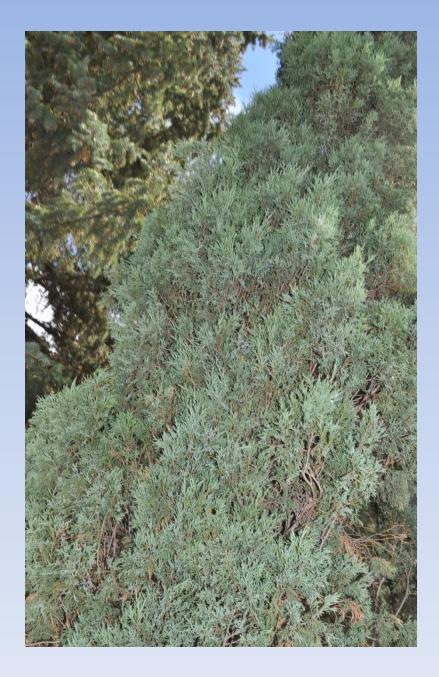














# Maackia amurensis Amur Maackia

#### **Ornamental Features**

- Silvery-green new leaves
- Flowers white, fragrant, June/July
- Olive-brown bark; may peel with maturity

- Easily transplanted, adaptable, grows in alkaline soil
- Legume that can use atmospheric nitrogen
- Fruit is a green-to-brown legume pod; 2 to 3"
- Little or no fall color
- Cultivars 'Starburst', 'Summertime'
- Zone 4; to approx. 25'























# Malus 'Adirondack' Adirondack Crabapple

#### **Ornamental features**

- Red buds open to white, single flowers
- Dark green leaves
- Unusual narrow vase shape/habit to about 18 x 10'
- Light red to orange fruits, 3/8", not long-persistent
- Some yellow fall color

## Culture/comments

- Possible snow load damage
- Excellent disease resistance
- US National Arboretum selection

















# Malus 'Coralcole' Coralburst<sup>®</sup> Crabapple

#### **Ornamental features**

- Rose-pink buds open to pink flowers
  - "two-tone" appearance
- Few fruits develop good small patio tree
- Some yellow fall color

- Available as a low graft (shrub-like) or 4' high graft (small tree)
- Rounded habit to 12-15 x 12-15'
- Good disease resistance
- Adaptable to alkaline clay soils
- Zone 4-7



















## *Ostrya virginiana* **American Hophornbeam**

**Ornamental Features** 

- Graceful small tree with drooping branches, maturing more rounded
- Dark green leaves turn yellow in fall
- Male catkin flowers; fruit resembles hops
- Gray/brown bark in long, narrow strips

- Somewhat slow to reestablish after transplanting
- An understory plant that tolerates full sun
- Zone 4

















## *Picea glauca* 'Pendula' Weeping White Spruce

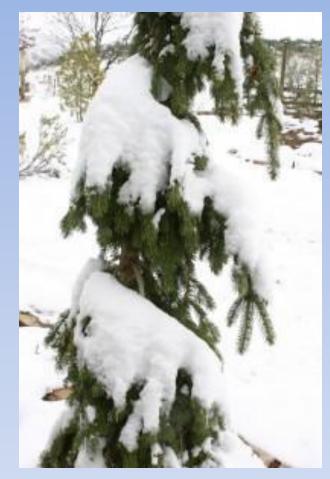
**Ornamental Features** 

- Compact, slow-growing form with pendulous branchlets
- Foliage rich green with a light waxy bloom

- Hardy form of boreal spruce that also thrives in summer heat
- Height: 15-20', width: 4-6'
- Plant Select<sup>®</sup> Recommendation







Pat Hayward photo





*Pinus mugo* 'Tannenbaum' **Tannenbaum Mugo Pine** 

## **Ornamental Features**

- "Christmas tree" pyramidal growth habit
- Attractive mid-green needles

- A release from South Dakota State University
- Slow-growing to about 12' x 6'
- Benefits from winter watering during dry spells
- Zone 3

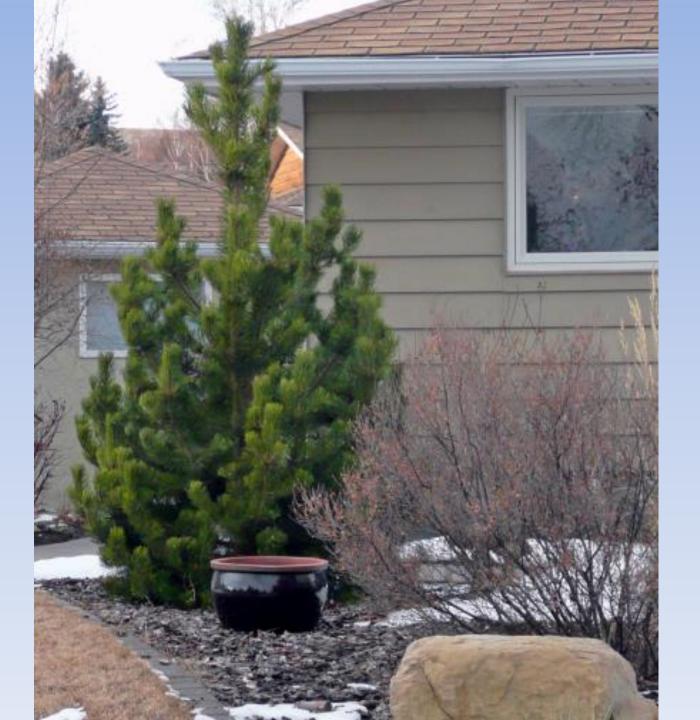












# *Pyrus ussuriensis* 'MorDak' **Prairie Gem<sup>®</sup> Ussurian Pear**

## **Ornamental Features**

- White flowers prior/with leafing in April
- Dark green leaves turn golden yellow in fall
- Dense, oval-rounded-globe habit

- Adaptable to local soils
- Sparse fruit
- To approx. 20' tall and wide
  - Good choice under power lines or in smaller spaces
- Selection from North Dakota State University
- Very cold-hardy, to Zone 3











#### North Dakota State University





# Quercus robur x alba 'Crimschmidt' Crimson Spire™ Oak

## **Ornamental features:**

- Columnar/fastigiate growth habit
- Blue-green foliage
- Rusty-red fall color lasts 2 weeks

- Hybrid of white oak and columnar English oak
- **Resistant** to powdery mildew
- Appears adapted to local soils
- Great choice where a tall narrow tree is needed
- To about 45' x 15'
- brown leaves persist through winter
- Zone 4



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# Quercus robur x bicolor 'Long' Regal Prince<sup>®</sup> Oak

### **Ornamental Features**

- Glossy dark green leaves
- Upright, broadly columnar growth habit
- Yellow fall color

- Tolerant of clay soils but may not thrive if too alkaline
  - iron chlorosis possible
  - Resistant to powdery mildew
  - Possible aphids and sooty mold problems
- Hybrid of Columnar English oak and Swamp White Oak
- Columnar, widening with age to about 40 x 20'
- Zone 4









# Upright Quercus Hybrids and Cultivars



Regal Prince Q. alba x bicolor

Upright English Oak Q. robur 'Fastigiata'

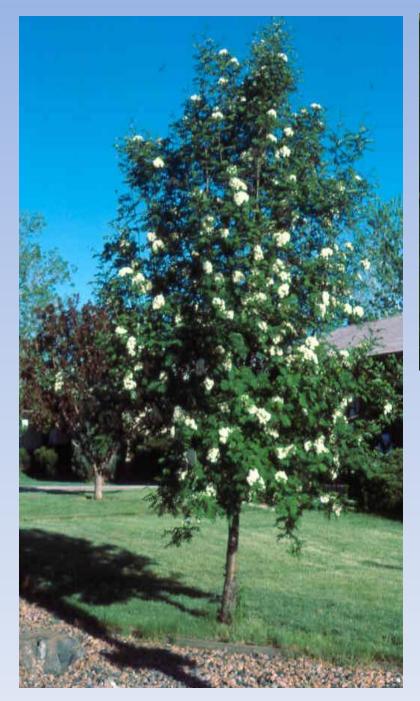
Crimson Spire Oak Q. robur x Q. alba 'Crimschmidt'

## Sorbus aucuparia 'Michred' Cardinal Royal<sup>®</sup> European Mountainash

### **Ornamental Features**

- Leaves dark green above, silvery below
- White flower clusters in May
- Red fruits Sept-winter
- Rust red to yellowish fall color

- seems to do OK in alkaline soils
- Upright oval habit; vigorous to about 40 x 20'
- best on N or E exposures
- Zone 4























## Syringa reticulata subsp. Pekinensis Pekin Lilac

### **Ornamental Features**

- Showy yellowish-white flowers in May/June
- Bark exfoliates brown flakes or sheets
- Upright arching habit, often more open

- Adaptable to alkaline clay soils
- Usually grown as a multi-stem large shrub to about 15 feet
- Full sun
- Zone 4-7
- Summer Charm<sup>™</sup>, China Snow<sup>™</sup> and others































### Other Trees to Try



#### **White Shield Osage Orange**



#### Katsura tree

### Other Trees to Try



### **Russian Hawthorn**



# Shrubs

# Amelanchier alnifolia 'Obelisk' Standing Ovation™ Serviceberry

### **Ornamental Features**

- Multiple seasons of landscape interest:
  - Spring white flowers turning to edible berries in June
  - Dark green circular leaves turn red to orange in autumn
  - Upright/oval growth habit, adds height/vertical accent

## **Comments/Culture**

- Height: 12-15' Width: 3-4'
- Exposure: Sun to light shade
- Selection of CO native serviceberry
- Can be used as a taller informal hedge/screen
- Zone 2-7



Young plants exhibit upright growth habit























# Cornus mas Corneliancherry Dogwood

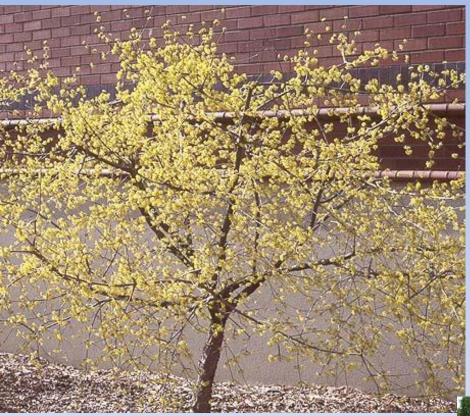
### **Ornamental features**

- Yellow flowers in March "first of spring"
- Attractive summer foliage; prominent venation
- Red fruit (drupe) August sparsely produced due to early flowering

### Comments/culture

- Shrub or small tree to about 15'
- Several cultivars
- Sun or part shade
- Prefers well-drained soils; pH adaptable
- Zone 4











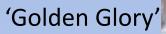


















# Another Dogwood to Try: June Bride







### Heptacodium miconioides Seven-son Flower

### **Ornamental Features**

- Leaves with prominent veining, little fall color
- Fragrant white flowers, Aug-Sept, in clusters of 7
- Sepals turn a showy red in Sept.
- Bark exfoliates on larger stems

### Comments/Culture

- Shrub or small tree to about 20 feet
- May be best in morning sun/afternoon shade
- Appears adapted to alkaline clay soil
- Plant Select<sup>®</sup> 2008
- Zone 5







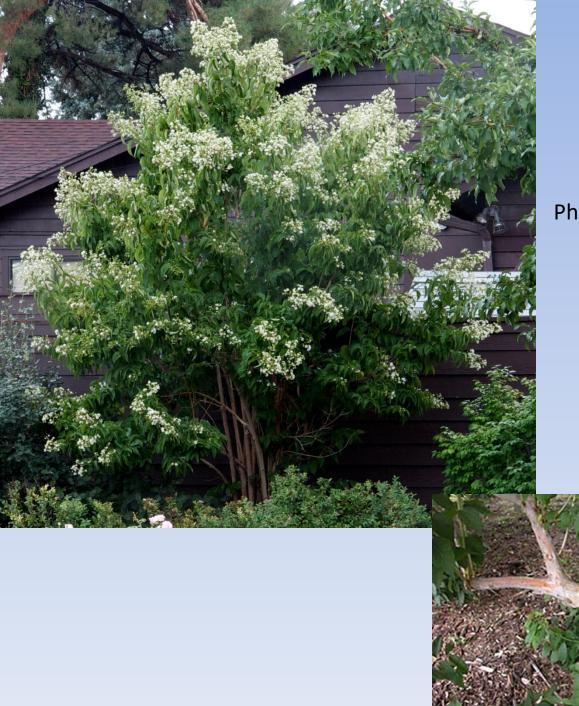












#### Photo D. Winger







# Hibiscus syriacus 'Gandini Santiago' Purple Pillar™ Rose of Sharon

### **Ornamental Features**

- Semi-double flowers are pink with purple eye; July-Sept
- Columnar growth habit

### Comments/Culture

- 10-15' tall and 2-3' wide
- Vertical accent shrub can be used as a tall screen
- Best in well-drained soil and full sun
- Tolerates heat and dry soils once established
- Flowers are short-lived; sterile, tend towards single in later season
- Zone 5











# New Woody Plants From Plant Select for Small Spaces



### Mini Man Viburnum



### **Sucker Punch Choke Cherry**



Thank you!

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