

Plant Profiles: HORT 2242 Landscape Plants II

Botanical Name: *Picea pungens*

Common Name: Colorado spruce, Colorado blue spruce, blue spruce

Family Name: Pinaceae – pine family

General Description: *Picea pungens* is one of the most popular and widely planted spruces in the Chicago area. It is a very adaptable tree well-known for its formal, dense, stiff habit and blue foliage. However, the foliage color can vary from green to slightly blue to strikingly blue. For consistent blue foliage a grafted named cultivar should be selected. Colorado spruce is native to the central and southern Rocky Mountains and once established, is considered one of the most drought tolerant spruces species.

Zone: 3-7

Resources Consulted:

Dirr, Michael A. *Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses*. Champaign: Stipes, 2009. Print.

"The PLANTS Database." *USDA, NRCS*. National Plant Data Team, Greensboro, NC 27401-4901 USA, 2014. Web. 14 Feb. 2014.

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Keywords/Tags: Pinaceae, tree, conifer, cone, needle, evergreen, *Picea pungens*, Colorado spruce, blue spruce



Whole plant/Habit:

- Description: *Picea pungens* has a stiff, dense, formal pyramidal habit. It is known for its very symmetrical shape. The thickly set branches and blue (typically) foliage creates a striking but dominant form in the landscape.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: February 18, 2011
- Image File Name: colorado_spruce_1250755.png



Whole plant/Habit:

- Description: As *Picea pungens* matures it retains its pyramidal shape but becomes more open and loose.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: March 18, 2011
- Image File Name: colorado_spruce_1270118.png



Bark:

- Description: The bark is thick, gray and slightly scaly. It is not an important identification feature.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: March 18, 2011
- Image File Name: colorado_spruce_1270116.png



Branch/Twig:

- Description: The horizontal branches are densely set. The small stems are orange-brown. Both branch/twig attributes will aid in identification.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: February 18, 2011
- Image File Name: colorado_spruce_1250750.png



Bud:

- Description: The tan colored buds have reflexed scales at the tip making it look like a rosette. In general, buds are not a distinctive identification feature for spruces; however, the buds of *Picea pungens* can be a useful aid when used in combination with other features.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: February 19, 2011
- Image File Name: colorado_spruce_1250765.png



Flower:

- Description: Though not true flowers, the reproductive structures on *Picea* are often referred to as such. Spruce is monoecious; producing male pollen cones and separate female seed cones all on the same plant. Male pollen cones are axillary and are either single or clustered. Female cones are produced at the tip of new growth. The color phases can vary according to species.
- Note: This photo is meant to show general images for "flowers". These images are of *Picea glauca*, not the species referenced in this Plant Profile.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: April 5, 2012
- Image File Name: white_spruce_1360064s.png



Cone:

- Description: The tan, papery cones of Colorado spruce serve as an excellent identification tool.
- Image Source: USDA-NRCS PLANTS Database / Herman, D.E., et al. 1996. *North Dakota tree handbook*. USDA NRCS ND State Soil Conservation Committee; NDSU Extension and Western Area Power Administration, Bismarck.
- Image Date: Unknown
- Image File Name: pipu_016_php.jpg



Cone:

- Description: The size, shape, color and texture of the cones of *Picea* confirm the identity of the species. Even the scale margin features can be important. Utilizing *Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses* by Michael Dirr (or other reputable source) study the botanical descriptions of spruce cones to become proficient in species identification.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: March 28, 2011
- Image File Name: picea_cones_1270356.png



Leaf/Leaf Attachment:

- Description: Typical of all spruces, Colorado spruce has one needle attached to a peg (pulvini). The needles have varying degrees of a waxy, glaucous covering creating shades of green, gray-green or silvery blue. They are stiff, slightly curved and sharply pointed. Lightly touching the tips of the prickly needles with your hand will confirm the identity of this plant! Also notice the orange-brown glabrous stem which is another good identifying feature.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: February 19, 2014
- Image File Name: colorado_spruce_5725.png



Leaf/Leaf Attachment:

- Description: The needles of Colorado spruce radiate around the stem creating a very full effect. This, along with the sharp needles, is a good identification feature.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: February 19, 2011
- Image File Name: colorado_spruce_1250769.png

**Winter interest:**

- Description: The cool blue foliage of *Picea pungens* looks especially nice against winter snow.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: February 19, 2014
- Image File Name: colorado_spruce_5720.png

**Special ID feature(s):**

- Description: There are so many identifying features on *Picea pungens* it is hard to choose the best or easiest ones. Cones will always be the best way to identify a conifer but in the absence of those look for the stiff, sharp radiating needles, orange-brown stem and rosette buds. The only other species you may confuse this with is *Picea glauca* but its needles are shorter and not as sharp.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: February 19, 2014
- Image File Name: colorado_spruce_5723.png