

Plant Profiles: HORT 2242 Landscape Plants II

Botanical Name: *Abies concolor*

Common Name: white fir

Family Name: Pinaceae – pine family

General Description: Plants in the genus *Abies* (fir) do best in the cool moist climate of northeastern and northwestern United States. As a rule, the hot, dry summers of the Midwest limit their use. However, *Abies concolor*, which is native to the mountains of southwestern United States is considered to be the best fir for the Midwest as it tolerates our summer conditions and withstands occasional dry spells. White fir is a slow growing, silvery blue, conical tree that should be used more in the landscape. There are many fine cultivars available selected primarily for intense color and interesting forms.

Zone: 4-7

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. 11 Mar. 2014.

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Creation Date: 2014

Keywords/Tags: Pinaceae, tree, conifer, cone, needle, evergreen, *Abies concolor*, white fir



Whole plant/Habit:

- Description: Notice the narrow, conical habit and silvery-blue color of the *Abies concolor* in this photograph. This is a very typical form and color for white fir. Although white fir can vary from gray/green to blue to silver/blue, the blue to silver forms are the most popular for the landscape.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: October 31, 2008
- Image File Name: white_fir_1070582.png

**Whole plant/Habit:**

- Description: *Abies concolor* is a conical to pyramidal evergreen with a strong central leader and branches to the ground. The upper branches angle upward with the lower branches slanting out or downward. Firs in general are known for having a very regular symmetrical habit.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: May 8, 2011
- Image File Name: white_fir_1300832.png

**Bark:**

- Description: The bark of white fir is thin and gray when young with pockets or vesicles of resin sometimes called resin blisters. With age the bark becomes thick and furrowed with an irregular pattern.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: September 7, 2008
- Image File Name: white_fir_3739.png

**Branch/Twig:**

- Description: The stem of white fir is yellowish, maturing to gray. The circular concave leaf scar is typical of all plants in the genus *Abies*.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: September 7, 2008
- Image File Name: white_fir_3744.png



Bud:

- Description: The buds are conical with a rounded tip. The buff colored buds are coated in white resin that may make it difficult to see individual scales.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: January 25, 2014
- Image File Name: white_fir_5549.png



Flower:

- Description: *Abies concolor* is a member of the Pinaceae family. Though not true flowers the reproductive structures on fir are often referred to as such. Firs are monoecious; producing male pollen cones (on left) and separate female seed cones all on the same plant. Male pollen cones are clustered at the base of new growth and often go through a brief but ornamental purple color phase as they expand in spring. The color phases can vary according to species. This photograph illustrates the expanded purple pollen cones of spring and the pollen cone buds present during the dormant season.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: May 8, 2011 & September 7, 2008
- Image File Name: white_fir_1300820s.png



Cone:

- Description: The 3 to 6 inch cones are borne upright on the stem in the upper third of the tree. Maturing in one season they change from green to purple to brown. In fall the cone scales dehisce (fall off) dispersing the seed. The central axis of the cone remains on the stem. This pattern is true of all firs, not just white fir. In this image also notice the individual cone scales and the leaf scars.
- Image Source: USDA-NRCS PLANTS Database
- Image Date: Unknown
- Image File Name: abco_016_php.png

**Cone:**

- Description: *Abies* cones are borne on 1-year old stems. In this picture, notice that the upright central axis of the disintegrated cone is not located on current season growth, it is located on last year's growth. The cones of fir are primarily formed in the upper portion of the tree, hidden from view by new growth and disintegrate at maturity. Unless it is a dwarf cultivar you may not even notice the cones!
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: November 2, 2008
- Image File Name: white_fir_4102.png

**Leaf Number/Attachment:**

- Description: As with all firs, there is one needle attached to the stem leaving a circular leaf scar. White fir is easy to identify from its foliage features. The needles go out and curve up creating a distinctive look that can be identified from afar. The needles are flat and have the same glaucous blue color on both sides. The specific epithet "concolor" meaning "with one color" refers to this feature. The needles reportedly have a citrus odor when bruised.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: September 7, 2008
- Image File Name: white_fir_3743.png

**Leaf Number/Attachment:**

- Description: This image shows the new growth of *Abies concolor*. The color of the new growth can vary from this light green to blue to silver. The foliage color of the new growth on most conifers adds a brief but beautiful contrast against the darker older foliage.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: May 17, 2009
- Image File Name: white_fir_1130706.png



Winter interest:

- Description: Typical evergreen winter interest.
- Image Source: Richard Webb, Self-employed horticulturist, Bugwood.org
- Image Date: Unknown
- Image File Name: 1480683-SMPT.jpg



Special ID feature(s):

- Description: The curved flat needle with the same color on both sides is the best identification feature for *Abies concolor*.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: June 22, 2008
- Image File Name: white_fir_1545.png