

## KEY TO CULTIVATED TSUGA SPECIES

by Laurence Hatch (1989)

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1. Needles with white stomatal bands on both sides - Rather glaucous above....2  
1. Needles with white stomatal bands on 1 side only - Green above..... 10
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2. Leaves blue-green to greyish blue....3  
2. Leaves intensely blue or silver.....4
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3. POSSIBLE ID=*Tsuga mertensiana* f. *mertensiana*

NOTE: *Tsuga x jeffreyi* is a cross of *T. mertensiana* x *T. heterophylla* but is extremely rare in gardens. It's characters in known examples are more close to *T. mertensiana* but with leaves more likely to be yellow green or grey green.

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4. POSSIBLE ID=*Tsuga mertensiana* f. *argentea* and numerous cultivars such as 'Argentea', 'Cascade', 'Elizabeth', and 'Mount Hood'.
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10. Leaf margins slightly serrulate (finely toothed)....11  
10. Leaf margins entire or smooth.....20
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NOTE: Marginal teeth in some examples may be present only near the leaf apex.

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11. Leaves wider at the base & branchlets arranged in several planes....15  
11. Leaves not wider at base & branchlets often in flat planes..... 13
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13. Leaves very dark green at maturity - Some leaves erect on shoots...19  
13. Leaves glossy light green at maturity - Leaves mostly flat.....14
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14. POSSIBLE ID=*Tsuga yunnanensis*

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15. Leaves rigid, often very long (20-30mm), pointing forward on drooping shoots.....16

15. Leaves soft, 6-20mm long, mostly spreading or horizontal or upside down.....18

NOTE: In some 18. the presence of many upside down leaves can be very diagnostic.

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16. POSSIBLE ID=*Tsuga dumosa*

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18. POSSIBLE ID=*Tsuga canadensis*

NOTE: For a subkey to *Tsuga canadensis* cultivar groups go to node 30. below

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19. POSSIBLE ID=*Tsuga heterophylla*

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20. Twigs glabrous (hairless)..... 21

20. Twigs pubescent over the entire surface... 22

20. Twigs pubescent only in grooves..... 23

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21. POSSIBLE ID=*Tsuga sieboldii*

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22. POSSIBLE ID=*Tsuga diversifolia*

NOTE: Swartley reports this is the first of species in the genus to produce new growth in spring. It can produce very conspicuous lavender male cones ("flowers").

NOTE: Rare species *T. blaringhemii* is more densely pubescent on twigs, with dark chestnut brown branchlets. There are also several cone differences. *Tsuga crassifolia* is also quite rare but fits into this group.

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23. Stomatal bands very white and distinct..... 24

23. Stomatal bands pale and inconspicuous..... 25

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24. POSSIBLE ID=*Tsuga caroliniana*

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25. Shoots pinkish-brown in color - Some leaves to 2cm long.....26

25. Shoots creamy white in color - Leaves mostly under 1.5cm long....27

NOTE: Some experts believe these variations to be both variants of *T. chinensis* rather than two distinct species.

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26. POSSIBLE ID=*Tsuga forrestii*

NOTE: It has been regarded as a variety or subspecies of *T. chinensis* due to the close similarity.

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27. POSSIBLE ID=*Tsuga chinensis*

NOTE: Rare species *T. calcarea* is similar but has erect cone scales, reddish-brown branchlets, and shorter leaves (under 10cm).

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### **TSUGA CANADENSIS CULTIVAR GROUPS SUBKEY**

30. Leaves light to dark green.....35

30. Leaves yellow to golden.....31

30. Leaves white to cream when young.....32

NOTE: As genetic traits are often inherited independently some cultivars may belong to more than one cultivar group.

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31. CULTIVAR GROUP=Golden Group

'Everett Golden' is perhaps the most commonly seen cv. to date.

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32. CULTIVAR GROUP=White-Tip

'Gentsch White', 'Watnong Star', 'Betty Rose' and 'Frosty' are among the best known of dozens in this group.

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35. Twigs thickened and covered with brown or reddish hairs when young....36

35. Twigs thin and not conspicuously hairy or only whitish hairy.....37

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36. CULTIVAR GROUP=Cinnamon-Tip

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37. Leaves minute (< 6mm long) .....38

37. Leaves mid-sized (7-16mm long).....40

37. Leaves large (18-21mm long).....39

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38. CULTIVAR GROUP=Little-Leaf

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39. CULTIVAR GROUP=Large-Leaf

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Select habit from the six choices below:

- 40. Narrowly columnar or fastigate.....44
  - 40. Upright weeping or arching-pendulous....41
  - 40. Trailing, prostrate, or spreading mound...45
  - 40. Globose or densely rounded.....42
  - 40. Conical or narrowly ovoid.....43
  - 40. Pyramidal to broadly ovoid.....46
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41. CULTIVAR GROUP=Pendula Group

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42. CULTIVAR GROUP=Globose Group

NOTE: Plants with extremely dense, tufted growth are often referred to the Twiggy Group instead.

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43. CULTIVAR GROUP=Conical Group

NOTE: Plants with extremely dense, tufted growth are often referred to the Twiggy Group instead.

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44. CULTIVAR GROUP=Fastigate Group

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45. CULTIVAR GROUP=Spreading Group

NOTE: Members of the weeping, Pendula Group may appear to belong to this group when grafted low on the understock. Swartley recognizes the distinction is often difficult but suggests this group has horizontal rather than erect or arching main stems.

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46. Branchlets densely clustered or tufted - Plants dwarf or slower growing....47

46. Branchlets open and graceful - Plants of moderate to quick vigor.....48

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47. CULTIVAR GROUP=Twiggy Group

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48. CULTIVAR GROUP=Conical Group or species typical.

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