

Grafting cedars – a new cultivar of *Cedrus deodara*?

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Introduction

A sport arose on a *Cedrus deodara* (Himalayan cedar) at Lincoln University about the year 2000. I observed this for a period of possibly five to seven years before finally getting around to grafting of it onto seedling trees of the same species. Brent Richards obtained seedling trees for me in early 2008 and these were grown on at the Lincoln University nursery.



Sport first noticed around 2000



Sport growth by 2007, this sport looks as though it would make a good weeping bun shaped conifer. There does not appear to be a cultivar of the Himalayan cedar that is similar and available in New Zealand. Palmer (1990) briefly describes both a weeping blue cedar *Cedrus atlantica* 'Glauca Pendula' and also a cedar of Lebanon as *Cedrus libani* 'Sargentii'. Hilliers (1977) describe a *Cedrus deodara* 'Pendula' as a wide-spreading low bush with pendulous branching, this selection appears more likely to be a more upright bun shaped weeping example. Cedar Lodge Nurseries web site (2008) lists a number of cultivars of *Cedrus deodara*, it is possible this sport is similar to one of the following listed 'Mountain Beauty', 'Mylor' or 'Pendula'. These will need to be checked before any decision to register a new cultivar is made.

Method

Early in 2008 seedling growing on lines of *Cedrus deodara* were purchased and grown on at the Lincoln University nursery. In late July (mid winter) twenty of those seedling trees were brought into the Fletcher House (a durolite covered heated greenhouse) to encourage early root growth. On 20th August 2008 scion material of the sport was collected and Brent Richards and myself side veneer grafted that material onto the seedlings. The grafts were made at around 60mm from the base of the tree and the grafts were secured by tying with 'Buddy Tape'. The grafts were not sealed or waxed. Plastic bags were placed over the whole seedling tree and left open at the base. The grafted trees were placed under a propagating tent with intermittent mist and base heat of around 20°C. Mist nozzles above the bags were turned off, but nearby nozzles were on for cuttings of other species. The trees were kept in this warm, high humidity environment until the 10th September (a period of 21 days).

The trees were then placed on the floor of the Fletcher House and two of the twenty trees had the plastic bags removed. All of the remaining bagged trees had the bags removed on the 22nd September after no adverse effects were noted from the earlier two that had the bags removed. All trees had shown signs of a strong flush of growth at this stage. All grafts looked as though they were also healthy and likely to take. In the absence of specific information about when heading back of grafts should be done they were not headed back until the 13th October (54 days after grafts were made) when it was assumed sufficient time for the grafts to have properly taken. The trees were headed back above the "Buddy ties" so these were not disturbed at this stage. Cuts were made on an angle between 10 and 15mm above the graft. Cuts were not painted or sealed. The grafted trees were moved into a durolite covered house, but without any heating on the 15th October. One half of this house is covered with durolite, the other half is covered with shade cloth only.



Side veneer grafts were used as suggested in Hartmann et al. (2002). Because of the difference in diameters of the stems of the scion and the rootstocks cambium layers were matched on one side of the graft only.



Side veneer grafts tied with 'Buddy Tape'



The rootstocks were headed back 13th October, 2008. The scions above had clearly made good growth indicating a successful graft, the tape will be removed in late summer 2009.

By February 2009 only 11 of the 20 grafts (55%) had survived and were growing well. It was clear that although the grafts had seemed to have taken that other reasons contributed to failures occurring. Based on observations, the possibilities included grafts were removed from the high humidity environment too soon (least likely), grafted plants were removed from the Fletcher house into the shade house too soon (slightly possible), some containers in the shade house were observed to be quite dry in October and some grafts were showing signs of severe stress then (highly probable). Severe frost in late October or early November occurred (slightly possible), plants were put out in an open, wind sheltered area over the summer – dried out or other extremes of heat, cool (slightly possible).

Summary.

Overall this was a useful exercise, it appeared as though the timing and grafting methods were satisfactory and all grafts showed initial signs of having taken. It appears as though the critical period is in the weaning off of the grafted plants into a harsher environment. A longer period in a warmer more sheltered environment may aid the final success rates.

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References

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