UNDERCUTTING AND/OR ROOTPRUNING AS A GROWTH CONTROL
MEASURE IN FOREST SEEDLING NURSERIES

by

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INTRODUCTION

Most or all of you have already undercut or root pruned to some degree and so it is not too new a concept. At the Hawaii State Tree Nursery it is done on a very intensive level both to stimulate growth and to slow it down.

BODY

Undercutting and/or root Pruning:

1. Increases growth by stimulating root development
2. Maintains porus loose soil which in turn is:
   a. receptive to chemicals
      1) Fertilizers
      2) Fungicides
      3) Insecticides
      4) Water
      5) Post emergence poisons
   b. easier to weed
   c. easier to maintain soil moisture
3. Can decrease or stop growth by:
   a. Reducing the amount of roots (Primarily fine roots)
   b. Reduce moisture holding capacity of the soil.
   c. Reduce number of roots in contact with soil and soil moisture.

All three of which apparently throw the plants into a form of shock.

Of course the primary reason for any of us to do anything is to develop and produce improved quality stock at a lower cost, and I think that Undercutting and/or root pruning is one technique that can be studied and used to accomplish this purpose.

A caution I would add is that you note I used the word STUDIED. I have found that different species react differently to varied intensities of undercutting and root pruning. I am sure however that with proper study and caution this technique will develop better quality stock at a lower cost.

DISCUSSION

Q: Does your stock ever harden off?

A: Yes, they get this springiness. After root pruning, they are sturdier and
   won't wilt.

Q: Have you tried any top pruning?

A: Not in pines, but in eucalyptus.

Q: Did you get any loss in your seed bed densities?

A: No. In seed bed densities I had no change when I root pruned. It
   increased seed bed density every time I root pruned.