

A Hot Bed for a Good Root®

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FIRST ATTEMPTS

I started in the nursery industry when I was 20. My first attempt at propagation was using some old windows I had borrowed from the neighbour, and some 8 ft × 1 in. timber, 2 high framing as a box edge. For medium I had read that sharp sand was required so I used crusher dust with a little peat. I had seen a really nice rhododendron at Ilam. It was a huge plant and yielded 400 cuttings. Also I did black currants and *Chamaecyparis pisifera* 'Boulevard'. I tried to rig up an irrigation system but that was incredibly uneven and all but a waste of time. The cold frame was placed under the Black Doris plum tree and bombarded with leaves and Black Doris plums from up to 6 m above. A couple of windows cracked and all were severely smudged purple.

Four rhododendrons rooted: 1% success. Most of the *C.* 'Boulevard' and all the black currants survived.

- I probably learnt 50% of what I know now then.
- I was in business.

TRY AGAIN FAIL AGAIN FAIL BETTER

The next phase was a propagation unit using my brother's old red-crested parakeet cage. It seemed perfect. I left the chicken netting on it, lifted the roof to make a pitch, and covered it in plastic. I got a few sheets of asbestos, fired clay sewage pipes stuck on their end to use as legs, some more 8 × 1. I had a raised propagation bench in a glasshouse. Well, plastic house. I purchased a mist system from a firm called Northern Electronics that used an electronic leaf, and purchased some pyrotechnic heat cables, laying them on a layer of vermiculite and covered them with sand. In the roost area of the bird cage I set up benches and shelves that became my work station. On my work station I hung a poem by Rudyard Kipling that I had found in the attic. I was set up.

If

If you can keep your head when all about you
 Are losing theirs and blaming it on you;
 If you can trust yourself when all men doubt you,
 But make allowance for their doubting too;
 If you can wait and not be tired by waiting,
 Or, being lied about, don't deal in lies,
 Or, being hated, don't give way to hating,
 And yet don't look too good, nor talk too wise;

If you can dream — and not make dreams your master;
 If you can think — and not make thoughts your aim;
 If you can meet with Triumph and Disaster

And treat those two imposters just the same;
 If you can bear to hear the truth you've spoken
 Twisted by knaves to make a trap for fools,
 Or watch the things you gave your life to, broken,
 And stoop and build 'em up with worn-out tools;

If you can make one heap of all your winnings
 And risk it on one turn of pitch-and-toss,
 And lose, and start again at your beginnings,
 And never breathe a word about your loss;
 If you can force your heart and nerve and sinew
 To serve your turn long after they are gone,
 And so hold on when there is nothing in you
 Except the Will which says to them: "Hold on!"

If you can talk with crowds and keep your virtue,
 Or walk with Kings — nor lose the common touch;
 If neither foes nor loving friends can hurt you;
 If all men count with you, but none too much;
 If you can fill the unforgiving minute
 With sixty seconds' worth of distance run,
 Yours is the Earth and everything that's in it,
 And — which is more — you'll be a Man my son!

I made some wooden boxes to fit 50 tubes and used these as my propagation boxes. These were all ground treated and killed everything within an inch of the edge. I used bark as my propagation media and purchased some IBA and made some alcohol based hormone dips.

- I was 21. I had a hot propagation bed; I was ready to root anything I desired.
- And I pretty much did. I was a legend in my own mind.
- The mist worked well, the media and hormones were good, but the heat was all over the place.
- Try again. Fail again. Fail better.

EXPANDING THE NURSERY

I now needed to expand my propagation area as I only had about 2 m² and I was propping rhododendrons. I could fill it in a couple of days and then had to wait 4 to 6 months for the thing to root.

I got a friend to make me an electronic leaf as well as a relay so I could have multiple stations and wean my cuttings. I had a 20-kg transformer made, and fencing wire that I connected to it. Bingo, I had the worst hot bed ever but it did work.

- But it was even more all over the place.
- Try again. Fail again. Fail better.

I was getting good — not. But I needed to expand, so I purchased 53 acres and a house, got a loan from the bank, and then changed it to my dad. He gave me a better term so I even paid him above market rates at the time. I set up a new nursery with eight 15 m × 6-m plastic houses, more pyrotechnic cable, more uneven heat.

Now I completely changed course. Hot water was in with me so I got some 5-kw spa pool elements, some water troughs for cows, and a circulating pump. I put this at the end of each house and bingo, I had the most amazing electricity bills. But it was even and consistent. Burnt bases were not from too much heat, they were now confined to too much hormone.

About 10 years ago I bought a Fletcher® duralite house complete with hot water diesel boiler. I now circulate the water at 23 °C. The beds vary by about 2 °C and my heating is perfect at 20–22 °C depending on the type of trays and connection with the bed.

Most of my beds were sand with polystyrene base or sand and alkathene pipe covered with weed mat to keep things tidy. I decided this wasn't tidy enough so I put all the water pipes in concrete to have nice tidy, clean houses.

- Well, that didn't work because all I did was create a huge perched water table in my medium through removing the capillary action of my sand. I was back to rotten bottoms and it was not caused by the hormone or the heat.
- Try again. Fail again. Fail better.

In between times I had put in a high-pressure fog system, grown under lights, tried a wet tent method, plastic cover, moved over to a calorie counter, gone out of fog, ditched the wet tent and plastic. I fiddled around with every conceivable mist nozzle and now I have ditched mist nozzles.

- To solve the perched water table I purchased some marine carpet and put it on the beds. They grow algae well but they also have reinstated the capillary action and the results have improved. I have gone back to weed mat and sand.
- I'm happy with my hot bed but some plants do better without it even if they do take a bit longer. Some plants are better starting without it than getting some.

INTO THE FUTURE

Jill Reader, another IPPS member, sent an email about a glasshouse listed on TradeMe® (a New Zealand online auction website). I bid \$1,000 and got it for \$550, and about \$40,000 later I have it transported and packed ready to build at home. I have a few ideas.

- Try again. Fail again. Fail better.