

CONIFER PRODUCTION FROM CUTTINGS

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The short talk I wish to give this afternoon is based on work I did whilst Practical Instructor in Nursery Practice at Hadlow College of Agriculture and Horticulture. It relates to a 2 year production system of containerised conifers. This project was made possible through the help of Bruce MacDonald, and of the students I was instructing at the time.

1. **Propagation.** Propagation was carried out during the winter months under conventional mist. The cuttings were 4 in long, preferably with a ripened base of $\frac{1}{2}$ in. All cuttings were treated with Seradix No. 3. Seed trays were used to give greater flexibility of handling and in which 60 cuttings were inserted. The compost used was 3 parts sphagnum peat to 1 part sharp sand and then the cuttings were placed under the mist with a basal temperature of 75° F.

Two main batches of cuttings were rooted. The first during October-November consisted of *Chamaecyparis* and *Thuja* cultivars — the great majority of cultivars being easy to root. Those which had not rooted by the time the second batch of cuttings were placed under the mist, were discarded. This second batch in January-February consisted of *Juniperus* and *Taxus* cultivars. These latter plants benefit from a winter "frosting". This helped them to root more readily.

The mist was manually controlled at night when it was completely switched off. On very dull days it was manually controlled also. The high ratio of peat in the compost may have meant that manual operation of the mist was necessary. It was essential that the subsequent cuttings had a good root system. Subsequently they require little attention after rooting.

When the rooted cuttings were 'weaned off', they were removed from the mist beds and placed in dutch light cold frames. During very cold weather they would be given additional protection in the form of hessian matting. All watering, whilst the conifers remained in the trays, was done by hand.

2. **Potting Off.** The potting-off was carried out during March and April, but was usually governed by the completion of the heather potting. The rooted conifers were potted in 8 cm peat pots using a compost 3 parts peat to 1 part sharp sand, together with Vitax Q4 fertilizer and ground chalk.

The potted conifers were plunged almost to the top of the pot in spent hops within a dutch light frame. This use of spent hops was

very important as it created rapid root development. The spent hops were kept for 6 months prior to plunging to remove the pungent odour which they always possess on delivery from the brewery. The time spent on plunging was greatly rewarded by growth during the summer months. The plunged conifers were next covered with lights and shaded until established. Later the conifers were ventilated and finally the lights were removed in the latter part of May, by which time the conifers were touching the glass.

The plants were given a top dressing of Eclipse fish manure at this time. I used fish manure because I had been told that it imparted good colour to conifers. The conifers did have very good colouring, but this might not have been attributable to the fertilizer. During this time a dilute liquid feed was given through the irrigation system.

The conifers remained in this frame during the rest of the summer, during which time they grew rapidly to produce an excellent liner upon removal from the hops. This was not a difficult task as might be thought from the abundance of roots. Generally the conifers when removed, depending on the genus and cultivar, were 9 in to 18 in tall.

Potting-on. This was carried out during October and November. Polythene sleeves 6 in diameter were used, and also a similar compost which contained Vitax Q4 HN at $\frac{3}{4}$ lb/c.yd. Potting was very easy and, as no root restriction occurred in the peat pot, establishment was very quick. The potted conifer was placed under protection for the winter using polythene 'walk-in' structures with overhead watering through which liquid feeding commenced in the spring. With the autumn potting the conifers were established by the winter and grew away rapidly in the spring still protected. The polythene cover was removed in June to ensure they were adequately hardened off for late summer/autumn despatch.

General. Giving simple protection for two winters, rapid unchecked growth could be attained. Being uncovered during the summer and giving no heat whilst rooting, one can see that this is a cheap production system. The spent hops were most beneficial and a great contributor to rapid growth during the first season. The examples of conifers which I have brought with me are over two feet high in July and are still rapidly growing. Three foot high container-grown conifers could easily be expected by autumn in two growing seasons instead of three. Finally it is important to note that this is a relatively cheap production cycle.