practice in the bush house with mist sprays installed.

A more sophisticated system involves the use of programmes to enable one to control all factors, such as light, bottom heat, ambient air temperatures (heating and/or cooling) and air circulation, allowing for extended daylight hours, and reduced daylight hours. The term given to this equipment is micro-electronics or computers. Propagation being carried out in controlled environment conditions could utilize a programme to control the environment. Moisture, bottom heat, and air circulation are the main factors to be controlled by a simple programme.

Mist cycles can be programmed within defined temperature ranges — for example, a three-second misting cycle every 15 minutes with a controlled temperature bottom heat of say 22°C and ambient air temperature between 15°C and 18°C with one air change every two minutes. This control can be achieved very simply with the use of thermisters (electronic thermostats) for sensing both air temperature and soil temperature. The signals from these devices are fed to the micro-processor. The inputs are then compared with the required conditions and predetermined responses are sent to the misting equipment, ventilation system, and soil heating equipment, as appropriate. The cost of such a system prohibits its use to all but the largest installations; however, future cost reductions are highly likely given to the current trends in the price of electronic equipment.

THE VEGETATIVE PROPAGATION OF GIANT BLUE MOSS (*Selaginella wildenowii*)

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Giant blue moss has never been easy to propagate except by layering runners. This is not economically feasible, particularly if uniform plants are required.

In our tissue culture laboratory we have spent a great deal of time and expense endeavouring to mass produce this plant, but its very slow and erratic behaviour in flasks has so far excluded it from satisfactory tissue culture propagation.

The method described here is the most successful approach we have developed for this difficult subject. Many well advanced stock plants, preferably about six feet high and well branched, are required. At no stage should the stock plants or young plants be allowed to drop below 25°C minimum temperature, and high humidity must be maintained.

First, the terminal shoots on all branches are pruned off. In four to six weeks time, on each branch the first axillary shoot back down the branch will emerge and a root will develop from axillary shoot. When this root is at least ¼" long the cutting can be taken with approximately 1 inch of original stem above and below the axil.

The cuttings are planted vertically with the bottom segment of the stem and the axil below soil level, and the shoot and the top segment of the old stem above soil level.

Plants are set into loose, well aerated, potting mix and watered regularly until established in six to eight weeks. Do not allow them to dry out.

Four to six weeks after taking the first cutting the next set of axillary buds down the branches will have developed, with the associated roots, and may be cut and planted. The process may be repeated every four to six weeks until eventually there is very little stock plant left. The stock plants may then be left for 12 to 18 months to regenerate.

Impatience is always rewarded with failure. Buds must not be cut until the root has definitely developed to at least ¼", and they need to remain on the plants as terminal buds for at least four to six weeks to initiate this root development.

We have tried most of the possible hormone and nutrient combinations to artificially induce shoot and root development, but to no avail. The system requires time, patience and lots of clean stock plants.

WHY I CAN'T GROW *TEMPLETONIA RETUSA* BUT CAN GROW BANKSIAS

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The title of this paper will become clear to you as we proceed. Firstly, *Templetonia retusa* is a very hardy shrub that does best in an exposed position and high alkaline soils; it is known to grown in soils at pH 8.5. It actually does best growing in broken limestone. As I am not about to use that as a soil mix, we then come to the other problems. The water that is used by our nursery has a pH of 5.5 and 13 grains per gallon total dissolved salts, contains hydrogen sulphide gas, and looks like gingerale. Coupled with a well-drained soil mix and excessive summer temperatures necessitating watering up to 3 times a day, you can see what is going to occur when one decides to grow a plant that is on the opposite end of the pH scale, compared to the