

as if they were still a lateral branch. Staking eliminated this characteristic after the first period of rapid growth.

From this stage on, no peculiar difficulties were encountered. Nearly all young trees get past the lateral stage and develop firm, woody trunks, suffering from no pests or diseases. We have been able to grow on the young trees to 6 ft. in height two years after planting in the ground. We have now repeated this technique over a number of years, and have found that we can expect approximately a 75% take. Hormone treatment does not appear to be that important, as those that were not treated one year rooted just as well.

In conclusion, I can see no reason why *Sequoiadendron giganteum* cannot be produced in large numbers for forestry or amenity purposes from cuttings obtained from young trees. However, it is important that propagation is not rushed, as these cuttings are slow to root, and any efforts to hustle them along gets you nowhere. With its excellent aesthetic appearance and quality timber, this is a tree to be considered by all nurserymen involved in the growing of quality trees.

PROPAGATION OF MARRAM GRASS

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Marram (*Ammophila arenaria*) is a strong growing coastal grass, used extensively throughout the temperate regions in attempts to stabilize coastal sand dunes. At present marram propagation is a wet weather job; our aim is to produce well rooted plants in tubes suitable for direct planting for dune stabilization. It grows rather like an extra strong couch grass (*Agropyron repens*) in that it produces long rhizomes up to 1cm thick that terminate in clusters of leafy shoots. This provided us with two types of propagation material.

1. The rhizomes that can be used as:
 - a. One to two node cuttings inserted vertically in the rooting medium.
 - b. Cut into lengths to suit a seed tray, and laid on the rooting medium or just covered. Bud growth is rapid (2 to 3 days) and root initials show after about 5 to 7 days; development is quite rapid and well-rooted cuttings can be potted in 14 to 18 days. The longer sections of rhizome laid horizontally produce shoots from nearly

every node; the shoot itself produces roots from its base, not from the old rhizome. Once these shoots are well-rooted, they can be cut from the old rhizome and potted on.

2. The clusters of leafy shoots at the ends of the rhizomes can be divided into single shoots and treated like ordinary cuttings; again rooting is rapid.

We are growing marram in a small area as against growing it as a field crop; it enables us to hold a large number of plants in a fairly small area. By growing marram this way we are getting a rootball that will extend below the drier top layer of sand and can carry on growing without the check that field grown plants get.

To a limited extent we have tried this method on:

1. *Spinifex* (*Spinifex hirsutus*), another coastal grass of value for sand stabilization; it responds to the same treatment but at a slower rate.
2. *Pingao* (*Desmoschoenus spiralis*) — This is a native sand dune stabilizer, It is a much more robust plant with thick stolons up to 2 cm in diameter. *Pingao* rhizomes have very close internodes and when cut into 5 to 10 cm lengths and planted vertically, many of the dormant axillary buds break and produce strong shoots. Both tip cuttings and these axillary shoots appear to be slow rooting, but more study needs to be done with this plant.

LOOKING AT OVERSEAS NURSERIES

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The main purpose of our trip was to sell plants and to advise on how to handle and grow New Zealand plants. We travelled in U.S.A., England and France.

In America we visited some nurseries in Miami, Florida, Phoenix, Arizona, and one in Texas, plus had an opportunity of setting up a booth at the Pacific Horticultural Trade Show, Long Beach, California.

The Pacific Horticultural Trade Show was staged at Long Beach Convention Centre, about an hour's drive from Los Angeles airport. There are 677 booths representing over 365 exhibitors. The displays of horticultural products range from nursery sup-