

# DEFLASKING AND CULTIVATION OF TISSUE-CULTURED PLANTS

ELIZABETH METCALFE

*Tropicus Nursery*  
*P.O. Box 505*  
*Darwin, Northern Territory 5790*

Darwin is situated in a tropical zone and experiences two seasons a year — a wet season in which we receive monsoonal rains with temperatures around 30 to 33°C and high humidity, and a dry season with low humidity and a greater diurnal temperature range, from about 18 to 30°C.

Environmental and climatic conditions are important factors to note and control when deflasking tissue cultures. The jars come from the air conditioned laboratory with a constant temperature of 26°C and a high humidity.

To prevent desiccation during deflasking the plants are handled quickly and are placed in a humid tent as soon as possible. A fungicide, such as Zineb, is used as a soil drench and also as a plant wash. This is a preventive procedure that guards against fungal attack. The use of University of California mixes also helps prevent soil-borne fungi attacking the tender growth. The most commonly used U.C. mix is of 75% peat, 25% sand and a small amount of slow-release micro-nutrient.

All deflasking takes place in the propagation or mist house. The sealed, sterile jars contain masses of tiny plants growing on an agar medium. The agar and plants are tipped out and small clumps of plants are separated and washed in a fungicide solution to remove all traces of agar. Then they are inserted into trays of U.C. mix drenched with fungicide. It is best to minimize shock by leaving them in clumps and insert them carefully into the medium rather than burying them. Hands must be washed well and forceps are used to handle plants gently.

Trays of deflasked plants are put under a clear plastic tent on the propagation bench with no automatic misting as this gets them wet and then there are problems with fungal and bacterial attack. Humidity is maintained with a fine mist from a hand mister. Both temperature and humidity are constantly checked by the operator.

When the plants are well established and growing they are removed from the tent and hardened off under normal mist. The plant clumps are then divided into separate plants and potted into tubes and grown under mist with regular applications of liquid fertilizer. They are finally potted-on and established, ready for sale.

## **FIXING CLIMBERS TO STAKES WITH ADHESIVE LABELS**

ROGER PEATE

*26 Kardinia Crescent,  
Warranwood, Victoria 3134*

In early autumn, 1982, various adhesive labels were tested to determine if they could be used to fix climbers to bamboo stakes. We had to stake many thousands of climbing plants with very soft stems. Twist ties tightened sufficiently to hold the plants up on the stake damaged the stems.

Quickstick International self-adhesive labels peeled off a backing sheet were used successfully. These are available from most news agents in a range of sizes. The most suitable size was 50 x 13 mm and these were available in sheets of 20 for about \$3.20 per thousand. While we needed them to last for a week or two, by which time the plants would be self-supporting, the labels retained their effectiveness for many months.

There were no savings in either material or labour costs as compared to other staking methods. This was because staff had difficulty detaching labels from the backing sheet. This required two hands at a most inconvenient stage of the staking operation. If growers got together to order sufficient labels a manufacturer could produce them in a form that is easy to handle, possibly in rolls. Then I believe this system would have potential in the industry.