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Tissue culture involves the mass production of true-to-type plants from carefully selected, good quality sources ('mother' plants, seeds, pups, tubers etc.) in a sterile environment, under controlled conditions of light, temperature and humidity. The plantlets (as they are referred to while in the laboratory) are grown in tubs or bottles containing an agar medium, in which hormones, nutrients and growth regulators are added in exact quantities, specific to each plant variety.

The end-result is fully rooted plantlets that can be either exported at this ex-agar stage (as they have had no prior contact with soil), or transferred into a greenhouse to be further acclimatized to growing in the soil under natural conditions, a process commonly known as hardening off. As these plants are grown exponentially under near-ideal conditions, they have excellent vigour, are disease free and hardy, and can be obtained in large numbers and uniform sizes in a short period of time as compared to conventional techniques.

The best and most proven techniques, if not followed correctly, can yield poor results. Plantlets that have undergone too many cycles and therefore lost their vigour, poorly rooted plantlets that have spent insufficient time in the rooting media, or very tiny plantlets that have been transferred to the greenhouse too soon, are all bound to fall short and fail to thrive.However, each stage meticulously followed with careful attention to detail can produce beautiful, robust plants that may seem expensive at first, but prove extremely economic in the long run.

Apart from plants being true-to-type and disease resistant, advantages of using the tissue culture techniques are that:

1. It is possible to predetermine and manage the quantities of varieties produced according to requirement. This allows us to cater to small as well as big growers. The ability to produce numbers as per requirement also makes it possible for growers to manage their production schedules accurately.

2. Varieties that otherwise have a very small chance of propagating, or would take very long to germinate from seeds (some bromeliad seeds could take up to a year to just germinate) can be easily propagated, and the required size and numbers can be obtained within a short period of time.

3. Potential buyers and interested lovers of exotics are not restricted access to these varieties due to geographical barriers. Having had no prior contact with soil, these products can be transported the world over in sterile plastic tubs.

If you want to know more about Plant tissue culture, then visit www.plantbiotech.com.au

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