

## FORGET NOT THE ESSENTIALS

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Dead plants cannot be propagated. Most of us accept this truth but we do not always behave as though we really believe it. Life being essential we should endeavor to maintain it.

Propagators spend much time 'multiplying by division', often into quite small pieces of parts of shoot, root or leaves, which they then place in situations where they grow to wholeness once again. There are many hazards in these processes and the greatest of these is desiccation or drying which, carried too far, is certain death. Herbaceous leafy cuttings are the chief sufferers but root cuttings are in the same danger, though the damage may not be immediately obvious. There is a tendency today to rely upon recovery under mist, but a wise man takes reasonable precautions. Moist-lined containers should be used for the collection of vulnerable cuttings. Polyethylene is suitable provided it is completely shaded whilst in use. Very full polybags may lead to suffocation of active cuttings; partial filling and ventilation helps. Young root pieces dry very quickly and may suffer severely in a few minutes if not protected.

The rate of drying varies with material and conditions. Whilst leafy cutting material left exposed may soon die, it may be safe when sprayed over and covered with a damp cloth. Leafless hardwood cuttings will also soon die on an open bench in a shed, yet be safe in a thin layer on a lawn. The washing of shoots or roots increases the rate of subsequent drying and calls for additional care.

Another neglected factor is aeration of the medium throughout the rooting period and beyond. The medium should stay aired even when it is very wet. This demands good drainage right through and material that does not become a soggy sponge during use. Our predecessors were so keen on aeration that they sometimes supported cuttings on the surface of a moist medium; a favourite dodge was to lay cuttings on top, or just nestling in, live sphagnum moss, using rain water to keep the sphagnum alive. Another trick was to push a cutting through the drainage hole of a pot inverted on moist material.

The temperatures used are important; control is simple with modern equipment. We would do well to remember that changing the temperature also changes conditions such as moisture and ventilation. If heat is applied below, the cutting base is the place for the thermostat. Yet propagators still place controls in strange positions; thermostats have been seen partly in draughty wall-cavities and even hanging in the free air above the cuttings.

Concerning the source or internal condition or quality of cuttings, when we collect a cutting we stand at the great divide.

Nothing we now do to that cutting can be more important than what has made it what it is. There are many factors associated with variety, strain, and culture to be considered. A factor too frequently ignored, and a major cause of inefficiency, is the *phase* of the cutting material. To possess the highest regenerative capacity (fast rooting), the shoot or root used for a cutting must have grown fast. Young seedlings have the maximum regenerative capacity but their vegetative propagation is no advantage. Adventitious shoots and roots propagate well. So do shoots or roots forced in warm glasshouses, or after severe pruning of well-established plants. In all these examples the tissues have been produced at high speed. Evidence of speedy growth is often revealed in changes in leaf-form, reminiscent of features commonly associated with juvenility, clearly seen in *Hedera*, *Ilex*, *Morus* and, indeed, many other genera. Incidentally, these fast growing parts may temporarily cease flowering, though non-flowering is not an essential property and obviously plays no part in root cuttings which also regenerate rapidly when grown fast on the source plant. For the production of good root cuttings cut the roots from the source plant and replant it again to produce fast-grown roots, a useful practice for some difficult-to-root subjects.

So, make your cutting-source grow *fast*. It does not matter how you do it, but hard cutting-over is one of the simplest ways. A warm glasshouse in spring will have much the same effect. So will the use of established vigorous rootstocks for slow-growing but valuable cultivars. Having obtained a really lively cutting, it deserves the best possible treatment and horticultural care.