

Propagation by cuttings John Knight

As mentioned in the last newsletter, December through to April or May presents ideal conditions to propagate new plants. Whilst there is no secret to propagation, understanding how plants are able to reproduce from pieces can add to greater success, or at least an appreciation of the wonders of nature.

To be successful, we need to be mindful of the needs of cuttings. These are the same conditions in which the plant requires when growing in the garden. Plants need water for transpiration and evaporation. For cuttings water also provides cooling and humidity. Oxygen is needed for cuttings to produce callus growth, which is discussed below, and for the formation of roots.

Technically, the cutting medium should have an air filled porosity value of around 25 - 30. This means that the mix, when thoroughly wetted and then allowed to drain, would contain air that fills up to 30% of the mix, and as such could never become waterlogged, which is a common cause of failure of cuttings. (At our next meeting a simple AFP test will be conducted, and you will shown how to make your own test kit.)

Cuttings also need light to enable them to continue the process of photosynthesis, and the more light the better. But of course more light might mean higher than desirable temperatures, which can cause the cuttings to suffer stress because they lose too much moisture.

Next is the need to provide the optimum temperature for the type of cuttings you are trying to strike. This time of the year, when overnight temperatures rarely drop below 15°, you need only consider how to keep the day time temperature at a reasonable level, say below 27°, but this is not so easy. Shading is the obvious answer, but we also need sufficient light, as previously noted, for the cuttings to continue their necessary functions.

Ideally, the base of the cuttings should be maintained in a warmer state than the vegetative parts. In the cooler months bottom heat can easily achieve this, but for now the dilemma is how to keep the tops cool enough. Everyone's conditions are different. When using the propagation box described last month, it should in my experience be placed in good light on the south side of the house this time of the year. As the weather cools it can be brought to the east but still protected from direct sun. Watering is the critical thing to get right. I currently water my boxes with a light mist early in the day, and again in the afternoon if necessary. The top cover is allowed to remain partly open on hot days, held so by a 25mm stake on its edge, and this necessitates an additional watering as the box atmosphere becomes less humid.

My experience is that too much water is more damaging than drier conditions, as the moisture promotes conditions suitable for fungal growth. That said, cuttings which are allowed to dry out will rarely be successful this time of the year, and yet in winter, drying out is sometimes beneficial. Only you will be able to work out what works best for you, but that is the secret science for which you are seeking the answer.

I will continue this discussion next newsletter.