

## Suggestions for Using Compost Tea in Cuttings Propagation®

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### INTRODUCTION

Compost tea is a liquid extract of humic compost containing large numbers of beneficial microorganisms. It is already in use in many nurseries in Europe as an aid to pest and disease management in plant production, but this paper highlights some potential uses in propagation.

### STOCK PLANT MANAGEMENT

Good quality finished plants begin with good quality cuttings, which in turn depend on healthy, well-maintained stock plants. Compost tea can be applied to stock plants as a foliar spray or a soil or compost drench.

Spraying the stock plants with compost tea every 10 to 14 days helps to suppress botrytis and bacterial leaf spot pathogens. These pathogens are therefore less likely to be carried through into the propagation house when the cuttings are taken.

Drench treatments increase the humic acid content of the soil or growing media, which in turn improves nutrient uptake by up to 30% leading to stronger shoot growth and healthier cuttings which root and grow away quickly.

### PROTECTION OF CUTTINGS

Cuttings carrying a healthy microflora on their leaves are less susceptible to botrytis during propagation. Microorganisms also produce carbon dioxide as they respire. The microflora on the leaves therefore acts as a CO<sub>2</sub>-enrichment system, which helps to increase photosynthetic rates in the cuttings. If a cutting assimilates carbohydrates more quickly through photosynthesis it has more energy to channel into producing a root system.

The larger the root system the cutting produces the less likely it is that a pathogen causing damage to a part of it will damage the plant as a whole.

### EFFECT OF COMPOST TEA IN ROOTING MEDIUM

It is important to make nutrients available to the rooting cutting as soon as it needs them. That timing can be critical and if the nutrients are not there when the cutting needs them growth may be checked, quality may suffer, and it is not possible to reverse the effects.

If the cutting is rooting into a medium containing a healthy microflora the microbes will be stimulated by exudates from the first roots the cutting produces. These exudates feed the bacteria and cause them to grow and multiply, releasing organic nutrients for the new roots to absorb. This is the start of the soil foodweb.

### EFFECT OF COMPOST TEA ON PROPAGATION HOUSE HYGIENE

Any prop house structure is alive with air-borne spores of microorganisms including pathogens such as botrytis. These are not removed by spraying the plants with fungicides. Compost tea sprayed in the house will reduce this disease pressure by creating a more diverse ecology. It can almost eliminate over-wintering botrytis.