

## PROJECT 4-5

## ROOTING OF CUTTINGS

### PROBLEM

Propagation of plants from cuttings is important in the horticultural industry and there is a continual search for compounds that will improve the success rate with rooting cuttings. Auxin hormones which induce root formation are available commercially. It has been found that commonly used fungicides may have a stimulatory effect or a depressing effect on root production when used along with the rooting powder. You might like to examine the effect of these chemicals on some exotic and native plant species.

### INFORMATION

1. Choose at least one plant that is easy to propagate from cuttings such as tomato, bean, *Chrysanthemum* etc. and some others that are more difficult e.g. bottle brushes, Geraldton wax, *Grevillea* etc. Read up on how to take cuttings before starting.
2. Choose a rooting powder appropriate for the type of cutting you are using i.e. soft or woody, and note the hormones they contain. Indol butyric acid (IBA) is good.
3. Select fungicides, Thiram, Captan and Benlate are commonly used. Cuttings are usually treated first with the rooting hormone and then the wet stems dipped in the fungicide powder and the excess shaken off. This may have to be modified according to the sort of treatment suggested on the rooting powder packet. Fungicide is usually diluted by weight to percentages of between 2% and 30% using talc powder for the remaining percentage.
4. Place treated cuttings in peat/vermiculite 1:1 or peat/coarse river sand 1:1 or some other loose mixture. Cover trays or pots with plastic bags to keep up humidity.
5. Handle toxic compounds with care.

### DESIGN OF EXPERIMENT

1. For interaction experiments like these you have to be extra careful about your design. There may be several 'control' treatments necessary.
2. How are you going to score rooting? Can you devise a quantitative scheme that will convert observations like 'poorly rooted' and 'many vigorous roots' to numerical values allowing a mean to be made of all cuttings for one treatment?
3. Will you put cuttings from different treatments in the same trays/pots or in separate containers?

### REFERENCES

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