PRELIMINARY RESULTS WITH AUSTRALIAN ROCKWOOL USED FOR PLANT PROPAGATION AND IN HYDROPONIC SYSTEMS

BRIAN C. HANGER

Horticultural Research Institute, Department of Agriculture, Knoxfield, Victoria

This note summarizes the results obtained with Australian-made horticultural rockwool used as a substrate for the propagation of seeds, rooting of cuttings, and for hydroponics. Growth was compared against that in: Danish horticultural rockwool; in a 50:50 mix of perlite and vermiculite; and in scoria.

Seeds of various sizes (e.g., petunia to sunflower) direct sown into Australian rockwool blocks germinated and emerged normally. The only problem encountered was a temporary iron deficiency in *Gypsophila* and *Petunia*, but this was easily rectified. In one study many gerbera seedlings failed to emerge from Australian and Danish rockwool blocks because of resistance imposed by the fibres to the cotyledons. This problem was overcome by shallower sowing. Early samples of Australian rockwool blocks collapsed badly but this problem was largely overcome in samples manufactured later.

Herbaceous and woody cuttings of exotic and Australian plants rooted readily in rockwool blocks and in about the same time as compared to current commercial methods. A problem was encountered with rose cuttings but this was attributed, in part, to uneven wetting of the rockwool blocks. Once the correct managerial procedures had been developed, this problem was eliminated.

Transplanting of seedlings and of tissue-cultured plantlets into rockwool blocks was satisfactory. The only difficulty was in the transplanting of relatively large-rooted gerbera crowns into 75 mm cube blocks, probably because of the need to severely root-prune first.

In the hydroponic studies, slabs of Australian rockwool (750 mm long, 300 mm wide, and either 100 or 50 mm thick), were used to grow sugar peas, tomatoes, *Gypsophila paniculata*, kangaroo paws (*Anigozanthos manglesii* and *A. flavidus*), gerbera, rose, carnation, and the Sturt desert pea (*Clianthus formosus*). All made vigorous growth and was comparable to growth in scoria, Danish rockwool, and in a perlite:vermiculite mixture.